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ABSTRACT

This project examines past and present activities in curriculum planning affecting the Australian educational system, and the relationship of curriculum change to prospects for improving the selection of curriculum materials used in Australian schools by investigating current developments in curriculum reform and methods for selecting materials. The project focused on identifying key elements in the decision-making process for selecting materials in the context of curriculum reform by investigating: (1) the historical context for national collaboration in curriculum development in Australia; (2) the present context for developing a national curriculum framework in Australia; (3) the procedures used by state and territory education and accreditation agencies in Australia to select and evaluate curriculum materials; (4) the practices used in a nationwide sample of Australian schools to select materials and use information services; (5) research literature on procedures used in the United States for selecting materials, and by conducting a survey of state education agencies in the United States; (6) case studies of selection procedures used in the states of California, Florida, and Washington, and by Connie Muther & Associates; and (7) case studies of services used to exchange evaluative information on curriculum materials in the United States, United Kingdom, and Australia. The report concludes by presenting sets of recommendations to improve the match between the curriculum and the selection of materials, to improve the selection process, to increase involvement by publishers, to increase public involvement, to establish procedures for adopting and disseminating materials, and to improve implementation of materials in classrooms. Tables and surveys relating to the project are appended. Contains a 509-item bibliography. (Author/DQE)

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Selecting Curriculum Resources for Australian Schools

A Review and Analysis of Current Methods and Future Possibilities

Michael G. Watt

SO 026 514

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Submitted in fulfilment of the requirements for the degree of Master of Education at the University of Tasmania, January 1996.

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Selecting Curriculum Resources for Australian Schools: A Review and Analysis of Current Methods and Future Possibilities

Abstract

This project report examines past and present activities in curriculum planning affecting the Australian educational system, and the relationship of curriculum change to prospects for improving the selection of curriculum materials used in Australian schools by investigating current developments in curriculum reform and methods for selecting materials. The project focuses on identifying key elements in the decision-making process for selecting materials in the context of curriculum reform by investigating: (1) the historical context for national collaboration in curriculum development in Australia; (2) the present context for developing a national curriculum framework in Australia; (3) the procedures used by state and territory education and accreditation agencies in Australia to select and evaluate curriculum materials; (4) the practices used in a nationwide sample of Australian schools to select materials and use information services; (5) research literature on procedures used in the United States for selecting materials, and by conducting a survey of state education agencies in the United States; (6) case studies of selection procedures used in the states of California, Florida, and Washington, and by Connie Muther & Associates; and (7) case studies of services used to exchange evaluative information on curriculum materials in the United States, United Kingdom and Australia. The report concludes by presenting sets of recommendations to improve the match between the curriculum and the selection of materials, to improve the selection process, to increase involvement by publishers, to increase public involvement, to establish procedures for adopting and disseminating materials, and to improve implementation of materials in classrooms.

PREFACE

The author wishes to acknowledge the assistance given by a large number of people in the research and development of this project. In particular, the author wishes to acknowledge the contribution made in 1995 by Professor Kerry Kennedy of the Faculty of Education, University of Canberra, for reviewing the report, offering expert advice on improving the organisation of the content, and providing a framework for structuring the report. School administrators, teachers and teacher-librarians in a sample of schools from all states and territories in Australia responded to a questionnaire survey providing data on the procedures used in their respective states and territories for selecting curriculum materials and providing information services as reported in Chapter 5. Personnel in many state education agencies in the United States responded to a questionnaire survey providing data on the procedures used in their states for selecting curriculum materials and providing information services as reported in Chapter 6. In particular, the author wishes to acknowledge the assistance given by the following individuals in providing information on particular topics described in this report.

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CHAPTER 1

INTRODUCTION

1.1 Background

Movements for comprehensive reform of educational systems in several Western democracies, including the United States, the United Kingdom, and Australia during the 1980s and 1990s, led to extensive changes in the structure of educational authorities. As the character of these reform movements altered during the late 1980s, the patterns of decision-making acquired the characteristics of centralising particular elements of decision-making authority at the national level, whilst at the same time decentralising other elements of decision-making authority to the local level. The changes in patterns of decision-making, resulting from the education reform movement, confirmed the centrality of nationally agreed curricula in the educational policies of these three countries. Consequently, the provision and quality of curriculum materials assumed greater importance in determining the outcomes of teaching and learning.

The need to improve the quality of curriculum materials was first recognised in the United States by the National Commission on Excellence in Education (1983). Its report prompted educators to realise that curriculum materials form an important element in any attempt to improve the quality of education. Soon afterwards, two national conferences on curriculum materials were convened. In March 1984, Governor Robert Graham and the Florida Senate Education Committee hosted in Tallahassee the Interstate Consortium on Instructional Materials, sponsored by the Florida Legislature, the Governor's Office, and the Florida Department of Education, at which 140 delegates including publishers, editors, textbook adoption administrators, and leaders of national professional associations supported giving the Council of Chief State School Officers (CCSSO) and the National Association of State Boards of Education (NASBE) the responsibility for establishing an agenda for future discussions on reforming curriculum materials, after rejecting a motion moved by California that the states should form a multi-state consortium to promote more challenging materials (Bridgman, 1984). In June 1985, CCSSO and NASBE cosponsored a second meeting, called Textbook Reform: A Cooperative Agenda, in Washington, DC, with the aim of forming a coalition of states to determine the criteria which should be met by materials of good quality. Although a coalition was not formed, educators recognised for the first time that prevailing decision-making processes for selecting curriculum materials were fraught with problems that limit their reliability. These activities led to criticisms about dubious practices occurring in textbook adoption procedures, and directed attention to identifying an organised and defensible decision-making process.

Although a national curriculum agency has been involved since 1973 in developing a substantial proportion of curriculum materials used in Australian schools, the same degree of attention has not been given by the educational authorities in Australia to improving the procedures for selecting curriculum materials. This phenomenon can probably be explained by the separate evolution of fundamental structures in the educational systems of the United States and Australia. Evidence of this effect is found in the findings, cited from the following comparative international study. The attributes of decision-making in the selection of curriculum materials were the subject of comparative international study during the course of a six-subject research project by the International Association for the Evaluation of Educational Achievement (Passow et al., 1976). Three forms of selection practice were reported by the twenty countries participating in the study: state adoption of curriculum materials, followed with selection by local education agencies, was reported in Iran, Israel and Japan; state adoption of curriculum materials, followed with selection by school administrators and teachers, was reported in Belgium, Chile, Finland, Hungary, India, Sweden and Thailand; and no state requirement for adoption, with selection by school administrators and teachers, was reported in Australia, England and Wales, Federal Republic of Germany, France, Ireland, Italy, Netherlands, New Zealand, and Scotland. The United States reported that all three types of practice were to be found. Reporting on patterns emerging from the findings, Westbury (1985) concluded that countries which seek more specific control over curricula by state-mandated syllabuses, usually subject curriculum materials to state adoption to ensure that these curricula are realised, whilst Commonwealth countries have tended to control curricula through public examinations rather than mandating state adoption of curriculum materials.

This conclusion needs to be re-examined in the light of the current education reform movements in the United States and Australia. Each national reform effort embodies a nationally consistent approach to curriculum and assessment, which bear comparison because of important similarities. Whilst imposing broad national requirements in curricula and assessment procedures to greater or lesser extents, these reform efforts accept that some degree of national planning in curriculum development is essential. Such planning includes commitments to the development of national curriculum frameworks and materials that support the frameworks, the application of information technology for their dissemination, and the improvement of various techniques relating to the production, selection and use of curriculum materials in schools. The similarities between current education reform movements in Australia and the United States suggest that the methods, techniques and practices employed within these areas in either country may be relevant and capable of adaptation in the other country.

1.2 Rationale

1.2.1 Impact of Curriculum Materials on Teaching and Learning

The importance of textbooks and other curriculum materials for teaching and learning in classrooms has been established by observations, content analyses and research studies conducted in the United States from early this century to the present time. The findings have supported a view that both students and teachers depend on such materials. The basis for this conclusion is to be found in research covering the role of materials across the curriculum, in specific subject areas, and in teacher's guides. Authors have also presented the findings of these studies in several important reports on American education published during the excellence debate. Woodward et al. (1988) interpreted recent research into the use and curriculum role of textbooks in American schools to be a response to the two main dimensions of the education reform movement during the 1980s. They related the first, initiatives to increase the level of student achievement, to the dependence of students on textbooks, and the second, initiatives to strengthen professional control, to the reliance of teachers on textbooks. Furthermore, Woodward and Elliott (1990) argued that teachers' heavy use, and in many cases their dependence on textbooks, as being a central issue in professional practice. Subsequent research, however, has challenged the assumption that teachers follow the curriculum presented in textbooks, teacher's guides and other materials with an unquestioning acceptance, but asserts that variations in the use of materials occur across subject areas, and through personal choices about the content of materials and their use. Consequently, Sosniak and Stodolsky (1993) defined two waves of recent research on textbooks and other curriculum materials, with the first assuming the direct influence of materials on teaching and learning without demonstrating it, but the second emphasising the use of materials by teachers and students, identifying that teachers do not use them with fidelity.

Research studies into the use of curriculum materials, conducted in the United States from early this century until the late 1980s, identified that their curriculum role is one of dependence for many teachers and students. As well as reviewing twelve reported studies from 1898 to 1929 citing dependence on textbooks, Bagley (1931) reported a survey, conducted for the National Society for the Study of Education, in which 14 percent of 1,014 different methods used in 539 lessons observed across 30 states involved the use of a single textbook. Gross (1952) reported from a survey of history teachers in 100 Californian high schools that 79 percent used a single textbook extensively. From a survey of 1580 elementary school teachers conducted during a study of the sociology of reading, Barton and Wilder (1966) found that 98 percent of grade 1 teachers and 92 percent of grades 2 and 3 teachers used basal readers on 'all or most days of the year'. A survey of respondents' attitudes found that 62 or 67 percent in two categories of elementary school teachers believed that basal readers were absolutely essential for teaching reading, whilst 40 percent of principals and 28 percent of reading experts considered they were absolutely essential. Educational Products Information Exchange Institute (1977) reported from a survey of a nationally stratified sample of more than 12,000 teachers that curriculum materials were used between 90 percent and 95 percent of teaching time, which included the use of textbooks for 70 percent of teaching time. Using the

Annehurst Curriculum Classification System to classify materials used by eleven-year-olds in 43 schools across 6 states, Davis et al. (1982) found that students used materials for 80 percent of teaching time with the use of language arts materials dominating. From an interpretation of data for the National Assessment of Educational Progress, LaPointe (1986) reported that 95 percent of teachers used textbooks daily, 90 percent were satisfied with these materials, and 87 percent used tests included in textbooks.

Case study and ethnographic research since the late 1980s has challenged the assumption that teachers show a uniform pattern of using curriculum materials. Stodolsky (1989) reported observations of six grade 5 teachers during mathematics and social studies lessons, in which the teachers varied considerably in their use of mathematics textbooks, adhering to textbook topics but departing from activities in the textbooks, whilst the teachers covered the topics sequentially in social studies as presented in social studies textbooks, but introduced distinct and unrelated topics. Sosniak and Perlman (1990) reported from interviewing 44 secondary school students about their learning experiences in mathematics, English and history, that teaching and learning were dominated by the use of textbooks, although they were used in different ways for different subjects. They concluded that the variance across subjects was a consequence of textbook publishers' and teachers' views of teaching and learning in different subjects. Armbruster et al. (1991) reported from observations of nine grade 4 teachers on their use of textbooks in science and social studies that more text was read by students in social studies than science, few of the teachers' questions were derived from the text, and few questions related directly to the text being read by students. Sosniak and Stodolsky (1993) reported from observations of four grade 4 teachers on their use of curriculum materials, that each teacher used a range of materials in distinctive ways across reading, mathematics and social studies, patterns of use and thinking about materials were inconsistent across subjects even for a single teacher, teachers valued materials because of their appeal to students, inclusion of valuable content and time-saving aspects, and the conditions of teachers' work influenced their selection and variable use of materials.

A number of researchers has reported on the use of textbooks and other curriculum materials in different subject areas, most often in reading and mathematics, but occasionally in science. In reading, the results suggest a close adherence to text material in that basal reading passages appear to be used in sequence and generally without omissions. From a survey of articles on reading research appearing in *Language Arts* and its predecessors, *Elementary English* and *The Elementary English Review*, between 1924 and 1982, Shannon (1982a) found that many authors identified teachers' dependence on commercial reading materials, recommending changes to their behaviour without analysing possible causes for their dependence. Shannon (1982b) reported from a survey of teachers and administrators that, whilst the latter believed in the authority of textbook content, the former relied on textbooks because of perceived demands by administrators. In testing a model of reading programs derived from this evidence, Shannon (1983) found that reading instruction was standardised by the use of basal readers and objective testing. Furthermore, Shannon (1987) argued from the findings of previous research studies that whole language experts have encouraged the use of commercial reading materials as a way of incorporating scientifically valid procedures and business principles into classroom instruction, thereby reducing teachers' and students' roles in reading instruction. Barr and Sadow (1989) reported from observations and interviews, involving seven grade 4 teachers, that they covered topics more consistently in traditionally designed reading materials, but omitted many topics from more complex materials, whilst differing in their reliance on recommendations presented in teacher's guides provided for the materials.

In mathematics, the findings suggest that different sections in textbooks are used selectively. Freeman et al. (1983) reported the results of content analyses of four mathematics textbooks and five standardised tests for grade 4, finding that only a limited number of topics were covered in all of the textbooks and tests. Schmidt et al. (1987) reported from interviewing 18 elementary teachers about the influence of nine variables affecting the content of mathematics programs that decision-making assumed four patterns: six teachers followed only the content defined in textbooks; six teachers were influenced predominantly by the content of textbooks, but were also influenced by student ability; three teachers were influenced mainly by district objectives and used a range of materials extensively; and three teachers were influenced mainly by their past experiences and personal conceptions of mathematics. Barr (1988) reported from case studies of nine grade 4 teachers that seven teachers followed the content in mathematics textbooks from chapter to chapter, spending a high proportion of time in review activities, but that the other two teachers used textbooks flexibly by omitting lessons, reordering chapters and using supplementary materials, thereby spending a higher proportion of time on new subject matter. Freeman and Porter (1989) reported from observations of four grade 4 teachers on their use of mathematics textbooks, that there were important differences between text content and each teacher's topic selection, content emphasis, and sequence of teaching.

Research studies on the use of textbooks and other curriculum materials in other subject areas are uncommon. There appear to be no studies relating to social studies, and few relating to science. Gottfried and Kyle (1992) reported from a sample of three matched pairs of textbook-centred and multiple-reference teachers that textbook-centered teachers were strongly aligned to 'actual state' criteria for biology education, used content-oriented goals and lecture as the predominant teaching method, and lacked involvement in professional development activities, whilst multiple-reference teachers were equally aligned to both 'actual state' and 'desired state' criteria, used a broader range of goals and teaching methods, and were more involved in professional development activities. Driscoll et al. (1994) reported from observations and interviews of one grade 8 teacher and student questionnaires on the use of a science textbook in the classroom and at home, that the material was used mainly as a reference tool, because it employed few strategies to support higher level objectives.

The effect of teacher's guides on teachers' decision-making forms an important corollary to the research examining their use of textbooks. In a study of the planning activities used by twelve elementary teachers in Virginia, McCutcheon (1981) found that between 85 percent and 95 percent of reading and mathematics activities in teachers' planning were based on suggestions presented in teacher's guides, although the teachers relied less on these sources in social studies and science because of time constraints. Durkin (1984a) reported observations of sixteen grades 1, 3 and 5 teachers on their use of teacher's guides for basal readers, finding that their use of the guides was selective with little attention being given to pre-reading activities, and most attention being given to post-reading comprehension assessment questions and written practice assignments. Durkin (1984b) reported an analysis of provisions for instruction, review, application and practice in manuals used in five basal reading materials, finding that recommendations were often inappropriate for teachers' needs. Woodward (1986) found from a study of teacher's guides for basal reading materials that recent guides presented detailed lesson plans for teachers to follow. He inferred that such prescription was responsible for changing the role of the teacher from a professional to a manager. Duffy et al. (1987) argued that decision-making is impeded by administrative requirements that teachers conform to procedures specified in teacher's guides, when using basal reading textbooks.

Several important reports on American education, published during the excellence debate, gave prominence to the findings of research studies on curriculum materials. The National Commission on Excellence in Education found that the quality of textbooks had declined, basing this conclusion on both research studies and testimony (Tomlinson, 1986). Two research studies, the historical and correlational study by Chall et al. (1977) about the quality and difficulty of textbooks and SAT scores provided evidence to substantiate the view that many textbooks are 'written down' to ever-lower reading levels, and a study conducted by Educational Products Information Exchange Institute (1980a) showed that most students were able to master the subject matter of their textbooks before using them. Testimony to the effect that expenditures on materials had declined by half over the previous seventeen years was presented by the Association of American Publishers in January 1982, and evidence of decline in the substantive quality of textbooks was gathered at public hearings held at Stanford University in March 1982, and at Georgia State University in May 1982. Goodlad (1983) reported from an eight-year project, A Study of Schooling, conducted in a representative sample of 38 schools from thirteen communities in seven states, that a wide range of curriculum materials was used in English language arts and social studies programs, that mathematics, science, foreign languages, and career and vocational education programs were dominated by textbooks, and that materials were not used extensively in only the arts and physical education. Cheney (1987) contended that most basal readers contain little literature, most elementary social studies textbooks contain little history, and history textbooks lack compelling narrative about human aspirations. She argued that the process used by publishers to develop textbooks is delineated with attention given to the roles of curriculum guides, adoption checklists and the avoidance of controversial topics, in determining the content of textbooks. Cheney recommended two remedies for this situation: a move away from centralised selection procedures; and assigning textbooks a less prominent role by replacing them with real literature. Cheney (1990a) described how well-intentioned measures to improve textbooks, such as the use of readability formulas, the fair representation of ethnic minorities and historical events, the avoidance of controversial issues, and the use of selection criteria, have tended to reduce their quality. She indicated how new guidelines implemented in California, and the textbook reviews of the American Textbook Council, have introduced remedies.

It is more difficult to provide evidence to substantiate the generalisability of these findings in Australian settings. Research into the use of curriculum materials in Australian schools, first reported during the 1970s, referred to the processes used to develop, disseminate and diffuse curriculum materials, providing content analyses of curriculum materials, or surveying the subsequent use of these products in schools. The focus on identifying these patterns came to dominate the rationales and designs applied in subsequent research studies, and little attention was given to determining the extent to which groups of teachers depend on, use or are independent of curriculum materials. Anderson (1981) reported from a survey of consultants and teachers from 576 schools in four states that more than 90 percent used each of three materials for English as a second language. Marsh et al. (1981) reported from a survey of principals and teachers in 40 primary schools in Western Australia that a wide range of materials were used in social studies and mathematics. Cohen and Harrison (1982) reported from a survey of principals, subject coordinators, and teachers from 98 schools in all states and territories that more than two-thirds of respondents used textbooks frequently. Kennedy (1985) reported a survey of principals, teacher-librarians and teachers at three Western Australian schools on their use of a curriculum material for multicultural education, finding its use was low. Marsh and Kennedy (1989) reported from a survey of teachers in all states and territories on their use of two materials for English as a second language that frequent use of different components varied from 7 percent to 59 percent. Laws et al. (1990) reported from a sample of 20 high schools in New South Wales that teachers' use of curriculum materials varied across subjects, from 80 percent of class time in mathematics, 60 percent in English, 50 percent in science, with variable use between teachers in social studies and history.

1.2.2 Rationale Statement

The rationale for reporting research studies into the use and role of curriculum materials lies in determining the role they play in the curriculum. The evidence indicates that their role is central to the process of teaching and learning in classrooms. The quality of teaching and learning in classrooms is affected by the quality of curriculum materials, especially commercially produced textbooks and other materials. Other research studies, reported in Chapter 9, have cast doubt on the high quality of many commercially produced materials. Research studies on text readability have identified the use of inconsiderate text in many commercial materials. Many research studies, investigating subject matter content coverage, have identified the presentation of selective and sometimes distorted content in science and social studies textbooks, and repetitive sequences of isolated skills in language arts, reading and mathematics textbooks. The problems, identified from research studies concerning the heavy use and poor quality of many materials, are most likely to be improved by implementation of strategies to influence the development and selection of materials.

The key decisions regarding the content and selection of curriculum materials are made primarily in a national materials' marketplace, first conceptualised by Komoski (1985) as a schema through which a material proceeds between its development and its use, consisting of five stages: the education industry; state education agencies or local school districts; school buildings and classrooms; classrooms and homes; and homes and businesses. The chief participants in this marketplace are developers and producers in publishing companies, and selectors or users in schools. The materials' marketplace involves a complex set of interactions between publishers' production and marketing procedures, and users' selection procedures. A similar, but more comprehensive, framework for explaining the process whereby curriculum materials move from publishers to students has been conceptualised by Wong and Loveless (1991). They postulated two sets of interacting patterns: first, the more frequent pattern of institutionalised politics; and second, the less common phenomenon of de-institutionalised politics. In the first, publishers, subject matter experts, education administrators and teachers operate a set procedures for developing, selecting and using curriculum materials in which disagreements between groups over content are resolved through compromise. In the second, politically organised interest groups, representing outsiders, intrude on the institutionalised politics with highly publicised challenges to selection decisions, which are often only reconciled through protracted litigation. Wong and Loveless concluded, however, that policy relating to curriculum materials is determined predominantly by institutionalised politics. In this context, intervention to improve the quality of curriculum materials used in schools may be affected during the developmental phase by procedures for trialling and revising materials, and before purchase in schools by procedures for selecting appropriate materials. It is apparent that selection procedures are more amenable to improvement, because the functions of development and production are often controlled by profit-making interests.

The intent of this project is to identify important elements of the decision-making process inherent in organised and valid procedures for selecting curriculum materials. The study describes various selection procedures used in educational practice in order to investigate several important issues: the relationship between curriculum frameworks and procedures for selecting materials; the role, membership and training of selection committees; the evaluation of materials; the role of publishers and materials' developers in selection procedures; the display and public response to materials; adoption and dissemination of information about materials; the collection and diffusion of materials; and the implementation of materials in classrooms. The purpose of identifying these key elements is to present recommendations, which national policy-makers, state curriculum specialists, school principals, teachers, publishers and other interested groups may apply to develop model procedures to improve decision-making in selecting materials appropriate to their particular settings.

This rationale is based on an assumption that existing procedures used in Australian educational systems to select curriculum materials will not meet the changes expected to occur in processes for curriculum provision, ensuing from the implementation of a nationally consistent approach to curriculum and assessment. The deficiencies in existing procedures are likely to be of such a pervasive magnitude that they cannot be remedied through adjustment, but instead they may need to be redesigned or replaced in toto. This hypothesis is supported by evidence that, first, there has been neither planned nor substantial investment in these activities at the federal, state or local levels in Australian education. Second, those activities that have been conducted at the federal and state levels have been undertaken in an uncoordinated way. Third, there is no documented evidence that the activities of this work have been trialled in the field or have been assimilated successfully within the programs of federal or state education agencies. Fourth, research and development activities in the area have been inadequate, and appear to have contributed little to the improvement of practice. Fifth, the practices, methods and techniques used to select and analyse curriculum materials do not appear to be based on the principles of curriculum design. Sixth, there is no evidence that selectors and analysts of curriculum materials have been trained in the decision-making process of selection and the skills of curriculum design analysis. Seventh, research into the use of curriculum materials in Australian education has not provided extensive information about their role in the curriculum, nor promoted sound decision-making in their selection and implementation. Eighth, practices, methods and techniques used to provide school library services and curriculum information services have been inadequately integrated within the Australian educational context. Ninth, there is no evidence that exemplary methods, techniques and practices, employed in foreign countries, have been drawn upon in the design of existing procedures.

Development of model procedures from recommendations, presented in Chapter 9, is likely to redress several significant problems, for which solutions have not been provided in the past in Australian education. First, the model procedures have the potential to redress perceived imbalances between local systems by coordinating procedures for selecting curriculum materials, and rationalising the provision of information on curriculum materials by promoting the redesign or replacement of existing, but ineffective, services through a national approach. Second, the model procedures have the potential to strengthen the relationships between the processes of curriculum development and selection of curriculum materials by promoting the application of new methods, techniques and practices, such as adoption cycles, curriculum design analysis, and curriculum alignment. Third, the model procedures are likely to promote an organised and sound decision -making process for selecting materials using representative selection committees, incorporating an inservice training program, determining screening and final selection criteria, organising the decision-making process, reporting on selection decisions, and incorporating challenge procedures. Fourth, the model procedures are likely to encourage greater involvement by developers and publishers of curriculum materials in verifying their products, submitting bids and samples, participating in presentations to selection committees, entering formal contracts with educational authorities, and organising the exchange and deposition of materials. Fifth, the model procedures are likely to promote greater involvement by local communities in the selection of curriculum materials through the establishment of public display centres, and participation in public hearings. Sixth, the model procedures have the potential to improve the diffusion of curriculum materials across Australian educational systems by establishing formal adoption procedures, and installing a system for disseminating and exchanging information on curriculum materials. Seventh, the model procedures have the potential to improve the implementation of curriculum materials by incorporating strategies for monitoring their use in classrooms.

1.2.3 Background to the Development of the Rationale

The rationale for the project arose from communications during 1986 with the American organisation, Educational Products Information Exchange (EPIE) Institute, which provides an information service on educational products directed to all levels of the American educational system. The outcome of these communications was conveyed to the Board of Directors of the Australian Schools Cataloguing Information Service (ASCIS), which then recommended at a meeting in April 1988, attended by representatives from the Curriculum Development Centre (CDC), that the methods, techniques and practices applied by EPIE Institute should be considered for adoption in Australian education. In August 1988, the author met with Brent Corish, Director of CDC, to discuss the implications of this recommendation. During this period, the author undertook an evaluation project in order to verify the propositions proposed in the recommendation (Watt, 1989). However, action derived from this recommendation was deferred because of the announcement at the sixtieth meeting of the Australian Education Council (AEC) that the functions of ASCIS and CDC were to be amalgamated to form a new organisation, Curriculum Corporation.

As a consequence of communications between the author and Warren Brewer, the first Curriculum Manager of Curriculum Corporation during 1991, the author initiated the present project. Communication with Phillip Tardif, Senior Advisor to the Commonwealth Minister for Schools, Vocational Education and Training, led to contact with the Schools and Curriculum Division of the Commonwealth Department of Employment, Education and Training concerning the project, and later to further communication with Curriculum Corporation in July 1994, when Bruce Wilson, the newly appointed Curriculum Manager, indicated interest in aspects of the research being undertaken in the project, because of its relationship to guidelines being developed for developers of curriculum materials.

1.3 Objectives

The seven main objectives of this project were accomplished by applying various research methods. Historical method, employed to investigate the first three objectives, was applied to reconstruct past developments in Australian educational systems. The first objective was to investigate the context of past developments in the organisation of educational systems and collaboration between these systems. The second objective was to examine the elements of contemporary national curriculum reform relating to collaboration between the Commonwealth, states and territories in Australia. The third objective was to investigate procedures used recently by state and territory education agencies in Australia to select curriculum materials.

Survey method, employed to investigate the fourth and fifth objectives, was applied to describe educational contexts factually by administering questionnaires. The fourth objective was to survey school administrators, teachers and information professionals in Australian schools to identify the methods, techniques and practices they applied when selecting, using and sharing information about curriculum materials, and their attitudes towards implementing innovative methods, techniques and practices. The fifth objective was to survey state education agencies in the United States on procedures applied to select curriculum materials. Content analysis, also employed to investigate the fifth objective, was applied to quantify key features of selection procedures described in policy documents.

Case study method, employed to investigate the sixth and seventh objectives, was applied to study intensively the backgrounds, current status, and environmental interactions of selected social units involved in the selection process. Content analysis, also employed to investigate the sixth and seventh objectives, was applied to analyse chosen selection procedures and the designs of information systems described in policy documents. The sixth objective was to study chosen selection procedures to determine their implications for curriculum development, flexibility to change, and potential for adaptation. The seventh objective was to study the designs of systems used for exchanging information on curriculum materials, and the forms in which evaluative information may be conveyed.

This report is intended for three main audiences: first, policy-makers in Australian education; second, a range of personnel in educational systems at the state level; and third, researchers and practitioners in education generally.

1.4 Research Plan

A taxonomy of research methods, applied by Fahy (1985) to classify articles on research in Australian curriculum studies, was used to specify and categorise research methods employed in this project. Fahy's taxonomy, which had been adapted and expanded from earlier work by Isaac and Michael (1971), consisted of fifteen methods: developmental; correlational; ex post facto; experimental; quasi-experimental; historical; survey; case study; action; ethnographic; autobiographical; content analysis; clinical; analytic discursive; and critical discursive.

Four principal methods were identified as being employed in the project. Appropriate techniques were employed to apply historical, survey, case study, and content analysis methods. The application of these methods is described in this section.

1.4 .1 Historical Method

Historical method was applied in Chapters 2, 3 and 4. In Chapter 2, the context for national collaboration in curriculum planning, covering the period from colonial times until the historic meeting of AEC in 1989, was examined by applying historical method. In Chapter 3, historical method was applied to examine the nature of decision-making processes and products inherent in the curriculum reform movement of the late 1980s and 1990s in Australia. In Chapter 4, historical method was applied to examine the nature and quality of various practices used by state and territory education agencies in Australia for selecting, purchasing, and distributing curriculum materials.

1.4.1.1 Development of National Collaboration in Australian Education

Secondary sources formed the predominant element in gathering historical information about the development of educational systems and national collaboration. A broad outline of these topics was obtained by referring to published general histories of Australian education. The roles of policy-making bodies and educational organisations, such as AEC, Australian Council for Educational Research and CDC, were investigated by examining histories of specific organisations. More specific issues, such the centralisation of decision-making in Australian educational systems, were researched by referring to articles on these topics published in specialist journals.

1.4.1.2 National Curriculum Reform in Australia

The first step in researching national curriculum reform in contemporary Australia involved searching electronic databases, such as the Australian Education Index, and the two files, *Resources in Education* and *Current Index to Journals in Education*, of the Educational Resources Information Center (ERIC) database. Information, obtained from citations identified from these searches, covered historical documents, books, collected works, dissertations, reports, literature reviews, guides, and journal articles. However, greatest reliance was given to several recently published books and journal articles for current information on national curriculum collaboration. Frequently, information obtained from these secondary sources was verified for currency through personal correspondence with staff members of educational organisations, such as AEC, Curriculum Corporation, Commonwealth Department of Employment, Education and Training, and the Office of the Minister for Schools, Vocational Education and Training.

1.4.1.3 A History of Procedures Used to Select Curriculum Materials in the States and Territories

Primary sources formed an important element in collecting information about the history of practices used in the states and territories to select curriculum materials. First, the author drew on a collection of correspondence and documents obtained from officers responsible for these activities during the 1980s. These materials were supplemented by information collected from directors of curriculum in state and territory education agencies about current practices in this area. Primary sources were augmented by information obtained from secondary sources, particularly in reporting information relating to controversy and censorship surrounding curriculum materials. Most secondary sources consisted of articles published in specialist journals.

1.4.2 Survey Method

Survey method was applied in Chapters 5 and 6. In Chapter 5, a study was conducted to investigate the practices applied by school administrators, teachers, and resource specialists in Australian schools for using curriculum materials, seeking information about curriculum materials, selecting curriculum materials, accessing electronic information services, and preferring particular forms of information about curriculum resources. In Chapter 6, a study was conducted to gain a comprehensive overview of selection procedures used in each state of the United States by analysing their main properties.

1.4.2.1 A Study of Practices Used to Select Curriculum Materials in Australian Schools

The method involved developing a questionnaire, which was then administered in a pilot study. The questionnaire was revised on the basis of the results gained from the pilot study before being administered to subjects in a nationwide sample of Australian schools.

1.4.2.1.1 Pilot Study

A pilot study was conducted to assess the adequacy of the wording of the questionnaire, the clarity of instructions, the appropriateness of specified subjects as respondents, the method to be employed for data collection, and to analyse a sample of data. A stratified random sample of 47 schools in Tasmania, representing 15 percent of the population of 312 Tasmanian schools, was selected. The sample is illustrated in Table 1 of Appendix A. Copies of the pilot study version of the questionnaire were mailed to the principals of each of the selected schools in the sample during September 1992. Eighteen schools, representing 38.3 percent of the 47 schools sampled in the pilot study, provided returns to the survey. Each type of school was represented in this group, which consisted of 12 primary schools, 3 high schools, and 3 schools with combined primary and secondary levels. Each sector was also represented in this group, which comprised 12 schools from the public sector, 5 schools from the Catholic sector, and 1 school from the independent sector. This group of 18 schools provided 29 individual responses to the survey, distributed into three categories: 2 schools were each represented by 3 respondents; 7 schools were each represented by 2 respondents; and 9 schools were each represented by 1 respondent.

1.4.2.1.2 Main Study

1.4.2.1.2.1 Target Population and Method of Sampling

A stratified random sample of 200 schools across Australia was selected. The sampling procedure involved four steps. First, data on pupil populations were used to allocate strata for the sample of 200 schools. This step, which identified the number of schools in each stratum by state or territory and sector (public, Catholic, and independent), is illustrated in Table 2.2 of Appendix A. Second, the allocation of specific numbers of schools to be selected from three types of schooling, based on the levels (primary, secondary, and combined primary and secondary), involved calculating the numbers of pupils enrolled in all schools in each education sector for each statistical division in each state and territory. This step is illustrated in Tables 3.1, 4.1, 5.1, 6.1, 7.1, 8.1, 9.1, and 10.1 of Appendix A. Pupil population data were based on information supplied by state and territory departments of education, Catholic offices of education in each state and territory, state and territory associations of independent schools, and the Commonwealth Department of Employment, Education and Training. Third, the numbers of schools were apportioned to each stratum of the sample in proportion to the size of the stratum in the population. This step is illustrated in Tables 3.2, 4.2, 5.2, 6.2, 7.2, 8.2, 9.2, and 10.2 of Appendix A. Fourth, the author randomly selected the sample of schools for each stratum. Kindergartens, special schools, and small schools, in particular primary schools with less than 50 enrolled pupils, were excluded from the sample because it was recognised that these schools would probably lack sufficient staff and facilities, thereby affecting the validity of the study. The actual subjects, however, were selected by each school's principal, although they were expected to consist of a school administrator, a classroom teacher and a resource specialist. The sample of schools for the main study was selected between November 1993 and February 1994.

Table 1 shows the breakdown in the number of questionnaires sent to schools in the sample, and the number returned by state and sector. Eighty-two schools, representing 41 percent of the 200 schools sampled, provided returns to the survey. Each state and territory was represented in this group: 28 schools were located in New South Wales; 20 schools were located in Victoria; 15 schools were located in Queensland; 7 schools were located in South Australia; 7 schools were located in Western Australia; 2 schools were located in Tasmania; 1 school was located in the Northern Territory; and 2 schools were located in the Australian Capital Territory. The responding schools enrolled pupils from each of six types of local community: 43 schools were located in large cities of more than 500,000 people; 4 schools were located in medium cities of from 100,000 to 500,000 people; 17 schools were located in small cities of 10,000 to 100,000 people; 11 schools were located in large towns of 1,000 to 10,000 people; 5 schools were located in small towns of less than 1,000 people; and 2 schools were located in Australian Aboriginal communities. Each sector was also represented in this group, which comprised 61 schools from the public sector, 14 schools from the Catholic sector, and 7 schools from the independent sector. Each type of school was represented in this group, which consisted of 45 primary schools, 28 high schools, 8 schools with combined primary and secondary levels, and 1 community education centre in an Australian Aboriginal community. The responding schools enrolled varying numbers of pupils: 4 schools enrolled less than 100 pupils; 10 schools enrolled between 100 and 199 pupils; 13 schools enrolled between 200 and 299 pupils; 7 schools enrolled between 300 and 399 pupils; 6 schools enrolled between 400 and 499 pupils; 7 schools enrolled between 500 and 599 pupils; 8 schools enrolled between 600 and 699 pupils; 6 schools enrolled between 800 and 899 pupils; 4 schools enrolled between 900 and 999 pupils; 2 schools enrolled between 1,000 and 1,099 pupils; 3 schools enrolled between 1,100 and 1,199 pupils; 3 schools enrolled between 1,200 and 1,299 pupils; 1 school enrolled between 1,300 and 1,399 pupils; and 2 schools enrolled between 1,500 and 1,599 pupils. The responding schools were staffed by varying numbers of teachers: 14 schools had less than 10 full-time teachers; 16 schools had from 10 to 19 full-time teachers; 15 schools had from 20 to 29 full-time teachers; 9 schools had from 30 to 39 full-time teachers; and 28 schools had more than 40 full-time teachers.

TABLE 1

QUESTIONNAIRE RETURNS BY STATE AND SECTOR

State	Sector	No. Forms Sent	3 Returns from Schools	2 Returns from Schools	1 Return from Schools	Replying Inability to Complete	Not Responding	Total Schools Responding	% of Schools Responding	Total Subjects Responding	% of Subjects Responding
NSW	Public	147	13	6	4	8	18	23	46.9	55	37.4
	Cath.	42	1	2	0	5	6	3	21.4	7	16.7
	Ind.	15	1	1	0	0	3	2	40.0	5	33.3
VIC	Public	102	10	1	1	10	12	12	35.3	33	32.4
	Cath.	33	3	2	0	2	4	5	45.5	13	39.4
	Ind.	15	3	0	0	2	0	3	60.0	9	60.0
QLD	Public	78	5	5	2	4	10	12	46.2	27	34.6
	Cath.	18	2	0	0	1	3	2	33.3	6	33.3
	Ind.	9	1	0	0	1	1	1	33.3	3	33.3
SA	Public	36	1	1	4	4	2	6	50.0	9	25.0
	Cath.	6	1	0	0	1	0	1	50.0	3	50.0
	Ind.	6	0	0	0	2	0	0	0.0	0	0.0
WA	Public	42	0	1	3	4	6	4	36.4	5	11.9
	Cath.	9	2	0	0	0	1	2	66.6	6	66.6
	Ind.	6	1	0	0	0	1	1	50.0	3	50.0
TAS	Public	12	1	1	0	2	0	2	50.0	5	41.7
	Cath.	3	0	0	0	1	0	0	0.0	0	0.0
	Ind.	3	0	0	0	0	1	0	0.0	0	0.0
NT	Public	6	1	0	0	1	0	1	50.0	3	50.0
	Cath.	0	0	0	0	0	0	0	0.0	0	0.0
	Ind.	0	0	0	0	0	0	0	0.0	0	0.0
ACT	Public	9	0	1	0	1	1	1	25.0	2	22.2
	Cath.	3	1	0	0	0	0	1	100.0	3	100.0
	Ind.	0	0	0	0	0	0	0	0.0	0	0.0
Subtotals	Public	432	31	16	14	34	49	61	42.4	139	32.2
	Cath.	114	10	4	0	10	14	14	36.8	38	33.3
	Ind.	54	6	1	0	5	6	7	38.9	20	37.0
Total	All	600	47	21	14	49	69	82	41.0	197	32.8

This group of 82 schools provided 197 individual responses to the survey, distributed into three categories: 47 schools were each represented by three respondents; 21 schools were each represented by two respondents; and 14 schools were each represented by one respondent. These respondents consisted of 121 females (61.4 percent) and 76 males (38.6 percent), with 12 aged 29 years and younger (6.1 percent), 59 aged between 30 to 39 years (29.9 percent), 84 aged between 40 to 49 years (42.6 percent), 41 aged between 50 to 59 years (20.8 percent), with 1 respondent (0.5 percent) failing to disclose an age. The respondents were represented in each of the designated roles: 35 were school principals (17.8 percent); 40 were deputy principals (20.3 percent); 30 were senior teachers (15.2 percent); 42 were classroom teachers (21.3 percent); 48 were teacher librarians (24.4 percent); and 2 were resource teachers (1.0 percent). The respondents worked in schools of varying sizes: 27 worked in schools with less than 10 full-time teachers (13.7 percent); 44 worked in schools with 10 to 19 full-time teachers (22.3 percent); 34 worked in schools with 20 to 29 full-time teachers (17.3 percent); 21 worked in schools with 30 to 39 full-time teachers (10.7 percent); and 71 worked in schools with more than 40 full-time teachers (36.0 percent). The respondents worked in schools enrolling varying numbers of pupils: 7 worked in schools enrolling less than 100 pupils (3.6 percent); 57 worked in schools enrolling between 100 and 299 pupils (28.9 percent); 29 worked in schools enrolling between 300 and 499 pupils (14.7 percent); 31 worked in schools enrolling between 500 and 699 pupils (15.7 percent); 34 worked in schools enrolling between 700 and 899 pupils (17.3 percent); and 39 worked in schools enrolling more than 900 pupils (19.8 percent). The respondents worked in four different types of school: 104 worked in primary schools (52.8 percent); 70 worked in high schools (35.5 percent); and 23 worked in schools with combined primary and secondary levels (11.7 percent). The respondents were employed by each of the three designated sectors: 139 were employed in the public sector (70.6 percent); 38 were employed in the Catholic sector (19.3 percent); and 20 were employed in the independent sector (10.2 percent). The respondents worked in schools, which enrolled pupils from each of six types of local community: 107 worked in schools enrolling pupils from cities with populations of more than 500,000 people (54.3 percent); 11 worked in schools enrolling pupils from cities with populations of 100,000 to 500,000 people (5.6 percent); 41 worked in schools enrolling pupils from cities with populations of 10,000 to 100,000 people (20.8 percent); 24 worked in schools enrolling pupils from towns of 1,000 to 10,000 people (12.2 percent); 10 worked in schools enrolling pupils from towns of less than 1,000 people (5.1 percent); and 4 worked in schools enrolling pupils from Australian Aboriginal communities (2.0 percent). The respondents worked in schools from each state and territory: 67 worked in schools located in New South Wales (34.0 percent); 55 worked in schools located in Victoria (27.9 percent); 36 worked in schools located in Queensland (18.3 percent); 12 worked in schools located in South Australia (6.1 percent); 14 worked in schools located in Western Australia (7.1 percent); 5 worked in schools located in Tasmania (2.5 percent); 5 worked in schools located in the Australian Capital Territory (2.5 percent); and 3 worked in schools located in the Northern Territory (1.5 percent).

1.4.2.1.2.2 Measurement Instrument

Development of the questionnaire passed through five stages. First, the questionnaire was designed by the author. It was then submitted to two faculty members of a higher education institution, discussed and revised on two occasions. Second, the instrument was submitted to two reference groups in a pilot trial, one a group of three curriculum specialists employed by the Tasmania Department of Education and the Arts and the other a teacher librarian and two teachers employed by an independent school in Hobart, Tasmania. The instrument was also submitted for preliminary reviews by each state and territory department of education, each Catholic education agency, and the Curriculum Manager of Curriculum Corporation. Third, the instrument was then revised, taking into account criticisms raised by the reference groups, various education agencies and contacts, and then administered in a pilot study. Fourth, a final revision of the questionnaire was made on the basis of feedback from the pilot study, criticisms received from education agencies, and comments received from two reference groups, consisting of five teacher librarians. Fifth, the questionnaire was then resubmitted to the state and Catholic education agencies for a final review.

The procedures used by education agencies to review the survey materials varied considerably. The New South Wales Department of School Education, the Victoria Directorate of School Education, the Queensland Department of Education, the South Australia Department of Education and Children's Services, the Tasmania Department of Education and the Arts, the Australian Capital Territory Department of Education and Training, and the Northern Territory Department of Education required the survey materials to be reviewed by committees, although the other agencies were satisfied to cite the survey materials. This process proved to be particularly time-consuming, thereby extending the time frame for conducting the survey for the main study well into 1994.

The final version of the instrument, titled Survey of the Use Made by Australian Schools of Curriculum Materials and Information Services, consisted of seven parts, with the first part intended to identify differences between groups within the sample. The purpose of the second part was to identify the types of materials most frequently used, so that they could be considered for coverage by both prospective selection procedures and an information service. The intent of the third part was to ascertain the subjects' reliance on personal and non-personal sources of information, so that the extent of involvement for these sources could be taken into account in defining the characteristics of the prospective selection procedures. The purpose of the fourth part was to identify the participants in the existing selection procedure in the school, the characteristics of its decision-making process, and the subjects' perceptions about improving the procedure. The intent of the fifth part was to identify the availability of electronic services for providing information about curriculum materials, and the subjects' use of these services. The purpose of the sixth part was to identify the subjects' perceptions about the importance of particular features of an information system, so that these features could be taken into account in designing the system. The purpose of the seventh part was to determine the subjects' perceptions about different approaches for presenting information about curriculum materials, ranging from descriptive reviews, evaluative reviews, full-text records to an integrated database, similar to EPIE Institute's database, the Integrated Instructional Information Resource (IIIR).

The version of the instrument, used in the main study, consisted of a single form designed for administration to administrators, teachers and resource specialists in schools. The instrument consisted of 71 items, comprising two types: 66 multiple choice items; and five open-ended items. The multiple choice items comprised a set to collect demographic data, five sets of five-point rating scales, and three sets of four-point rating scales. This instrument is reproduced as Appendix B.

1.4.2.1.2.3 Design

Survey method was selected by the author as the most appropriate design to answer the research questions. It was envisaged that important national policy decisions may emanate from the study with regard to the selection of curriculum materials and the provision of an information service on curriculum materials. Therefore, it was necessary to obtain opinions from school administrators, classroom teachers and resource specialists through a nationwide study to permit a confident generalisation to these groups in Australia's public, Catholic and independent schools. A difficulty pertained to this aim, because it was recognised that this information would be best collected through naturalistic observations. Application of this technique, however, was rejected, because of the extensive resources and expenses required to study sufficient subjects. Consequently, collection of this information was sought by questionnaire, because it represented the only feasible way for an independent researcher to collect these data from a nationwide sample of subjects, who were not accessible through personal contacts. The two fundamental problems of the questionnaire technique, those of a high refusal rate and a low per capita yield, were adjusted in the design. The quota of 200 schools for the sample was planned to take account of a possible attrition rate of 60 percent, based on evidence derived from the pilot study. An increase in the yield of written information was anticipated by including a number of open-ended items in the questionnaire.

1.4.2.1.2.4 Data Collection Methods

Collection of data from public schools required the approval of the respective education agency in all states and territories, except Western Australia. Similarly, Catholic education agencies in all states required registration of an intention to survey schools. Initial contacts made with these agencies led to some administrators undertaking preliminary contacts with individual schools selected in the sample, or providing written statements to be included with the survey materials encouraging schools to participate.

The method employed for collecting data from the sample involved distribution of questionnaires to subsamples of schools in each of the states and territories. Survey materials were despatched by Australia Post in five separate distributions: to 74 schools in New South Wales, Australian Capital Territory, and Northern Territory early in April 1994, so as to arrive in these schools at the commencement of Term II; to 50 schools in Victoria during mid-April 1994, so as to arrive in these schools at the commencement of Term II; to 35 schools in South Australia and Western Australia late in April 1994, so as to arrive in these schools at the commencement of Term II; to 6 schools in Tasmania early in June 1994, so as to arrive in these schools at the commencement of Term II; and to 35 schools in Queensland late in June 1994, so as to arrive in these schools at the commencement of Term III.

The survey materials, which consisted of three copies of the questionnaire and a cover letter, requested the school principal to select a school administrator, a classroom teacher and a resource specialist to complete each copy. Subjects were required to spend approximately 30 minutes in completing responses on the questionnaire, and were provided with the option of contacting the author by telephone to clarify any queries concerning the questionnaire. Respondents were requested to return the completed questionnaires within two weeks of receiving them. Follow-up letters, which included an outline statement on the project proposal, were sent to non-responding schools, approximately one month after the despatch of each set of questionnaires. Follow-up letters were also sent approximately six weeks after the despatch of each set of questionnaires to responding schools, which had sent back only one or two of the possible three returns to the survey.

A computer-based file was designed and maintained to aid data collection. The names of each of the 200 schools in the sample were entered, and columns were provided to list the dates when the survey materials were despatched, individual returns were received from school administrators, classroom teachers and resource specialists, and also receipts of refusals. Information referring to despatches of follow-up letters was also notated by symbols.

1.4.2.1.2.5 Data Analysis

Quantitative analysis was applied to both quantitative and qualitative data collected from the survey. StatView II, published by Abacus Concepts (1987), was used to analyse quantitative data with appropriate statistical tests. A copy of this computer program, which was maintained on a computer diskette, was used to create a dataset for entering data from the survey. Soon after receiving each of the completed returns from a school, the multiple-choice items, consisting of Likert-type scales, were precoded manually on each questionnaire form to maintain accuracy in data input. The relationships between the independent and dependent variables were quantified using statistical tests. The t-test was used to compare the means of two samples for the variables of gender, age, number of full-time teachers, number of pupils, sector, and community to determine whether the difference between the means was a real or chance difference. One way analysis of variance was used to compare the means of three samples for the variables of role and type of school to determine whether the difference between the means was a real or chance difference. For post hoc comparisons, Fisher's exact probability test was used to test the relative effects between groups for each analysis of variance, when it was significant.

Quantitative analysis was also applied to the open-ended items. One group of open-ended items asked the subjects to list the criteria affecting their choices of curriculum materials, their sources of information about curriculum materials, their use of electronic databases to identify curriculum information, and their preferred approaches for presenting information on curriculum materials. For each of these items, the responses of all subjects were listed, quantified and classified. In addition, the responses of all subjects were synthesised to identify the availability of equipment in each school for accessing electronic databases.

One item asked the subjects to describe the main policy or procedure used to select curriculum materials in the school. Particular categories, which defined the characteristics of particular units involved in selecting and adopting curriculum materials, were adapted from a classification applied in the study published by the Institute for Educational Development (1969), reported in Chapter 6. This classification, which employed a common set of definitions for both selection and adoption units, consisted of ten categories: group choice by teachers collectively; group choice by teachers and the curriculum coordinator in curriculum areas or subject departments; group choice by school administrators, curriculum coordinators, or resource specialists; group choice by teachers and school administrators collectively; group choice by the school council; individual choice by teachers; individual choice by administrators; individual choice by curriculum coordinators;

individual choice by resource specialists; and no definable procedure. The responses of all subjects for each school were synthesised to form and categorise the selection and adoption procedure accurately.

1.4.2.2 A Study of State-Level Policies for Selecting Curriculum Materials in the United States

The method involved developing a questionnaire, which was administered to textbook adoption administrators in statewide adoption states, and to state-level representatives in local-level adoption states.

1.4.2.2.1 Target Population

The population of 65 state education agencies was identified by consulting a directory (Council of Chief State School Officers, 1989-90). This population consisted of the fifty state education agencies, the District of Columbia, the Department of Defense Dependents Schools, the five extra-state jurisdictions of American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and Virgin Islands, and the eight vocational education agencies of Arkansas, Colorado, Hawaii, Indiana, North Dakota, Oklahoma, Washington, Wisconsin.

1.4.2.2.2 Instrumentation

The author was obliged to design a questionnaire as a self-report measure because the subjects involved in the survey were not accessible through personal contacts. Development of the instrument passed through three stages. First, the author designed the questionnaire by adapting an instrument reported by Duke (1985). Second, the instrument was submitted to two reference groups in Tasmania, and subsequently revised taking into account criticisms raised by the reference groups. Third, the instrument was redesigned during the course of the survey to reflect the differences between states using statewide adoption and local-level adoption procedures. The final version of the instrument is reproduced as Appendix C.

1.4.2.2.3 Design

Survey method, selected by the author as the most appropriate design to collect data for answering the research questions, allowed the author to specify the elements of the research questions as sets of items in the questionnaire, and to report data collected from the survey in a form that represented the elements of the research questions.

The main confounding factor in the study, identified early in the course of the survey, pertained to the variation in procedures between those states using statewide adoption and those using local-level adoption procedures. Whilst subjects contacted in states, using statewide adoption procedures, were able to respond fully to the questionnaire, subjects contacted in states, using local-level adoption procedures, experienced difficulty responding fully, because a different procedure was used in each local school district. Consequently, the instrument was redesigned by the author so as to allow subjects in states, using local-level adoption procedures, to specify an example of good practice used in a local school district.

1.4.2.2.4 Data Collection Method

The author contacted the Education Commission of the States (ECS) in Denver, Colorado, requesting that ECS support the survey of state education agencies in the United States. The Executive Director of ECS responded, indicating willingness to support the study by distributing questionnaires, and providing additional information to assist the author to organise the survey materials. The Executive Director of the Association for Supervision and Curriculum Development (ASCD) in Alexandria, Virginia, was also contacted, and indicated that ASCD was willing to endorse the conduct of the survey of state education agencies.

The 65 questionnaires, required for the survey of state education agencies, were enclosed in individual envelopes, and then sent during August 1992 in one package by the economy air mail service provided by Australia Post to ECS in Denver, Colorado, which then distributed the envelopes during September 1992 to state education agencies through its State Relations Clearinghouse. State education agencies were provided with the options for contacting the author by telephone, facsimile or air mail to clarify any queries concerning the questionnaire. Respondents were requested to return the completed questionnaire directly to the author by 30 November 1992.

Twenty-three agencies, of the 65 surveyed, had presented returns to the survey by late February 1993. In mid-March 1993, the author sent copies of a follow-up letter to the 42 state education agencies that had not presented returns to the survey. As well as requesting chief state school officers to check with designated respondents, the follow-up letter also outlined procedures to follow if there were difficulties in completing the questionnaire. Two agencies replied by returning completed response forms to the survey, seven agencies requested additional copies of the questionnaire in order to respond to the survey, and one agency indicated it would not respond to the survey.

It was evident by mid-1993 that responses would not be forthcoming from the remaining 32 non-responding agencies. The author had previously contacted Connie Muther & Associates, which had provided a list of its 137 client school districts throughout the United States, as well as including an article on the survey in its newsletter, *Networking News*. From these clients, it was possible to identify contacts in 15 states of the 32 non-responding agencies. Each of these 15 contacts was sent a form in mid-July 1993 on which to indicate whether they could respond to the survey, or alternatively provide information about a potential contact who might be able to respond to the survey. This strategy yielded returns from another two states. In a final effort to collect data from the remaining 7 statewide adoption states, the author sent forms in November 1993, directed to administrators responsible for this activity. This effort resulted in a further 3 states responding to the survey. On this basis, a total of 30 state education agencies, including 17 statewide adoption states, responded to the survey.

1.4.2.2.5 Data Analysis

Both quantitative and qualitative analyses were applied to data collected from the survey of state education agencies in the United States. The use of content analysis method, which applied quantitative analysis of data contained in questionnaire returns and documents provided by respondents, is reported under Content Analysis Method in Section 5.

1.4.3 Case Study Method

Case study method was applied in Chapters 7 and 8. In Chapter 7, the decision-making process involved in selecting curriculum materials was examined through case studies of selection procedures in the United States used in two statewide adoption states, one local-level adoption state, and a private agency offering a program to train selection committees in local school districts. In Chapter 8, the application of various evaluative approaches to provide information about curriculum materials was examined through case studies of information systems in Australia, United States and United Kingdom.

1.4.3.1 Case Studies of Decision-Making Processes for Selecting Curriculum Materials in the United States

Case study method was applied to examine aspects of the decision-making process involved in the selection of curriculum materials, such as the relationship between the curriculum and the selection of materials, the allocation of time and money, the role, membership and training of selection committees, the role of publishers in the selection process, committee evaluation of submitted materials, display and public response to submitted materials, adoption and dissemination of information about recommended materials, collection and distribution of recommended materials, and implementation of materials in classrooms.

1.4.3.1.1 Method of Sampling

A plan for sampling states was designed in order to present case studies of particular procedures for selecting and adopting curriculum materials. The plan applied a non-probability sampling method referred to as purposive or criterion-based sampling. The use of this sampling method has been justified in case study research, because its intent is to discover and understand what occurs, and to gain insight into the relationships linking occurrences (Lincoln and Guba, 1985; Merriam, 1988). Purposive or criterion-based sampling is based on either initial group or sequential processes. In the initial group process, the researcher uses comprehensive examination of every case, selection of a quota from major subgroups, selection of an extreme case, selection of a typical case, selection of a unique case, selection of a reputational case based on recommendation by experts, selection of an ideal type case, and comparing cases over a period of time. The sequential process involves theoretical sampling, in which the data determine the selection of the sample.

A modified form of the initial group process was used in this study, because the cases did not meet all the conditions of the strategy. The states were assigned to groups according to the two major types of procedures: state-level adoption; and local-level adoption. Two statewide adoption states were selected for case studies. California was selected to investigate the effect of a statewide adoption procedure in a large state, as well as to present a comprehensive picture of the typical statewide adoption procedure. Florida, a moderately influential statewide adoption state, was selected because it used district pre-adoption evaluations and a training process as part of its statewide adoption procedure. One local-level adoption state was selected for case study. Washington was selected to examine a system, which mandates minimal state-level control over local-level procedures for selecting and adopting curriculum materials.

In addition, a nationwide service provided by an agency, Connie Muther & Associates, was also described as a case study, because its recommended training program has influenced selection procedures applied in many local school districts across the United States. Verification of the application of Connie Muther's training program was obtained by surveying a sample of local school districts from two states: nine school districts in Washington; and one school district in Utah. Washington was selected because the guidelines for minimal state-level control over the local-level selection procedures used in this state were well understood from the reported case study. Utah was selected because it used a flexible state-level selection procedure. Four local school districts in Washington, and one local school district in Utah responded to the survey.

1.4.3.1.2 Instrumentation

Several items included in the instrument, reproduced as Appendix C, requested subjects to provide documents describing the procedures used by committees to select curriculum materials, specifying selection criteria, and describing selection procedures used by local school districts. The documents, supplied by respondents, were used as the principal sources for reporting information in the case studies.

1.4.3.1.3 Design

Case study method was selected by the author as the most appropriate design to describe, interpret and evaluate the processes applied in particular selection procedures, which were chosen because they showed evidence of good practice. Case study method is appropriate to investigate the decision-making process involved in selection procedures, because it focuses on particular aspects, provides a description of the phenomenon, illuminates the reader's understanding of the phenomenon, and relies on discovering new relationships, concepts, and understanding about the phenomenon through inductive reasoning.

1.4.3.1.4 Data Collection Method

The case study, describing the procedure used by the California Department of Education, was written in March 1993 on the basis of information and documents supplied by the Director of the Office of Curriculum Frameworks and Instructional Resources. The draft was sent to the respondent in April for editing and additional information, revised on the basis of the respondent's comments, and then sent to the respondent late in June for further information. The final version of the case study was completed in October 1993. The case study, describing the procedure used by the Florida Department of Education, was written in September 1993 on the basis of information and documents supplied by the Program Specialist Instructional Materials. On the basis of further information and documents supplied by the respondent in September 1994, the case study was revised to include information about the process of learner verification and revision previously practised as part of Florida's selection procedure. The case study, describing the procedures used by the Washington Superintendent of Public Instruction, was written in March 1993 on the basis of information and documents supplied by the Supervisor of School Library Media Programs. The draft was sent to the respondent in April for checking, and for additional information on a sample local school district policy. It was revised on the basis of the respondent's comments, and then sent to the respondent late in May for the final check. The case study on the training program, offered by Connie Muther & Associates, was developed by consulting the 1988 edition of the manual of training modules (Muther, 1983), originally supplied by Connie Muther in 1988. Further information about the nationwide service was provided by an associate of Connie Muther & Associates, in January 1993, which led to the development of a draft description. The final draft version was edited by the Director of Connie Muther & Associates, in April 1995, and subsequently revised on the basis of the respondent's comments in May 1995.

1.4.3.1.5 Data Analysis

The case studies applied content analysis method to synthesise information contained in documents provided by the respondents. The use of content analysis method, applied to these data, is reported under Content Analysis Method in Section 5.

1.4.3.2 Case Studies of Services for Exchanging Information on Curriculum Resources

Case study method was applied to describe processes used by providers in Australia, the United Kingdom, and the United States for exchanging various types of information about curriculum resources. As well as examining existing services, a prospective service being developed by the United States Department of Education, was examined to determine key elements representing a state-of-the-art application of information technology. The case studies examined a range of common elements: the development of the information system; the processes used to collect, select, analyse and input information into a database; the content and processes used to search a database; and the available products and services provided by the information system and their access by clients.

1.4.3.2.1 Target Population

The information systems were identified from a variety of sources during the course of previous research. The main source, a directory edited by Morgan (1991), was supplemented by searches in several other directories. The target population, comprising forty-three organisations in Canada, the United Kingdom and the United States, which maintained information systems on curriculum-related products, were surveyed. The information systems, operated by twelve organisations, were subsequently reported by Watt (1992). An analysis of the reported systems showed that five systems in the United States and the United Kingdom were involved predominantly in providing nationwide information services about curriculum materials. These services were chosen for case study research in this project. In addition, the nationwide service provided by Curriculum Corporation and a proposed service, planned by the United States Department of Education, were added to this group.

In addition, 65 state education agencies in the United States were surveyed in this study on their use of these information services.

1.4.3.2.2 Instrumentation

A set of items included in the instrument, reproduced as Appendix C, sought to identify the subjects' use of these information services. In addition, several items included in the instrument requested subjects to provide more specific information on their use of services offered by EPIE Institute.

1.4.3.2.3 Design

Case study method was selected by the author as the most appropriate design to describe, interpret and evaluate the processes applied in particular information systems, which were chosen because they showed evidence of good practice. Case study method is appropriate to investigate the processes involved in information systems, because it focuses on particular aspects, provides a description of the phenomenon, illuminates the reader's understanding of the phenomenon, and relies on discovering new relationships, concepts, and understanding about the phenomenon through inductive reasoning.

1.4.3.2.4 Data Collection Method

The case studies were written on the basis of information collected from agencies providing these services. The essential content of each description, except the last reporting on new initiatives being developed by the United States Department of Education, was collected before this project was initiated. Additional information, updating several of these services, was obtained during the course of the project. In addition, information on the use of the information services available in the United States was collected during the course of the project.

1.4.3.2.5 Data Analysis

The case studies applied content analysis method to synthesise information contained in documents provided by the respondents. Content analysis method, applied to these data, is reported under Content Analysis Method in Section 5.

1.4.4 Content Analysis

Content analysis method was applied in Chapters 6, 7 and 8. In Chapter 6, content analysis method was applied to classify the key features of selection procedures used in statewide adoption states. In Chapters 7 and 8, content analysis method was used to describe the characteristics of selection procedures and information systems.

1.4.4.1 A Study of Procedures Used to Select Curriculum Materials in the United States

The objective of content analysis was to test research questions about key features of the decision-making process for selecting curriculum materials. Content-analysis data were obtained from a variety of documents, including questionnaire returns, textbook adoption statutes, administrator's guides, training materials, lists of selection criteria, and adoption lists. The relationship between the objective and the data was based on 20 content categories specified by Tulley and Farr (1985) from an examination of statutes on textbook adoption in statewide adoption states. All documents supplied by the respondents were subjected to content analysis. Because the content analysis covered a wider scope than Tulley and Farr's study, content categories were developed initially by reading a sample of documents. Then, the content categories were compared to those specified by Tulley and Farr, and revised. Data analysis involved examining all documents pertaining to a particular state educational system for explicit statements relating to each content category. If such statements were identified, they were transcribed and notated in a standardised form onto Table 24. Respondents were queried to substantiate implicit intents inferred from documents, before such information was accepted.

1.4.4.2 Case Studies of Procedures Used to Select Curriculum Materials in the United States

Content analysis method was applied to produce descriptive information about selection procedures used in the states of California, Florida, and Washington, together with the training program of Connie Muther & Associates. Content-analysis data were obtained from a variety of documents, including historical documents, questionnaire returns, textbook adoption statutes, administrator's guides, training materials, lists of selection criteria, and adoption lists. As well educational literature was consulted to provide background information about the selection procedures.

The initial draft of each case study was revised on the basis of edited comments, when these were provided by the respondent. In some cases, additional information, supplied by the respondent, was used to complete the description.

1.4.4.3 Case Studies of Information Services on Curriculum Resources

Content analysis method was applied to produce descriptive information about selected information services, based in the United States, United Kingdom, and Australia. Content-analysis data were obtained from a variety of documents, including discussion papers, reports, training materials, user's guides, and brochures. As well educational literature was consulted to provide background information about the information services.

The initial draft of each case study was revised on the basis of edited comments, when these were provided by the respondent. In some cases, additional information supplied by the respondent, was used to complete the description.

1.5 Description of Final Report

The final report consists of nine chapters. The first chapter, Introduction, presents the rationale for the project, explicates the objectives of the project, and describes the research plan for conducting the project. The second chapter describes the history of national collaboration in education between Australian educational authorities from colonial times until the historic AEC meeting in April, 1989. The third chapter describes the key attributes of current national curriculum reform in Australia. The fourth chapter describes the nature of various practices used by state and territory education agencies in Australia to select curriculum materials. The fifth chapter reports a study investigating the processes and perceptions of administrators, teachers, and resource specialists from a sample of Australian schools concerning various aspects relating to curriculum materials, and the provision of information about curriculum materials. The sixth chapter reports on research studies, and the findings of a survey of state education agencies in the United States on the procedures used to select curriculum materials. The seventh chapter describes and analyses selection procedures used in selected states in the United States, and by a nationwide training service. The eighth chapter describes and analyses the methods, techniques and practices applied in selected information systems providing evaluative information on curriculum resources. The last chapter, Conclusion, examines the key features of decision-making in the selection of curriculum materials, and presents sets of recommendations that may be applied to develop model selection procedures for Australian educational settings.

CHAPTER 2

DEVELOPMENT OF NATIONAL COLLABORATION IN AUSTRALIAN EDUCATION

The growth of national collaboration between the Commonwealth and the states and territories is a recent phenomenon in Australian education, although a pattern of centralised administration of colonial educational systems had been established during latter decades of the nineteenth century. The first initiatives towards national collaboration in Australian education occurred with the foundation of a research institute, the Australian Council for Educational Research (ACER) in 1930, and a policy forum, the Australian Education Council (AEC) in 1936. The foundation of the Commonwealth Office of Education in 1945 led to an interventionist role for this federal agency through the extension of specific purpose programs during the 1960s, and the establishment of the Commonwealth Schools Commission in 1973 to provide funds to schools. Initiatives for curriculum reform during the late 1960s led to the foundation in 1973 of a national curriculum agency, the Curriculum Development Centre (CDC). The intent of policy makers to relate education more closely to the needs of the national economy during the late 1980s led to the restructure of the Commonwealth and several state educational systems, and the promotion of a national agenda for education reform through AEC.

The purpose of this chapter is to present an account of the historical context for national collaboration in curriculum planning, covering the period from colonial times until the historic meeting of AEC in 1989. This examination relates to the rationale for the project by determining the basis for collaboration in education between the Commonwealth, state and territory jurisdictions, and the extent to which the Commonwealth, states and territories collaborated in the areas of educational policy, research, curriculum development, and information provision. It also investigates how this collaboration led to the formation of federal agencies, and describes ways these agencies assumed particular responsibilities in these areas. The chapter concludes by assessing the extent to which a national approach to curriculum development had been achieved during this period by examining particular successes and failures.

2.1. The Development of State Educational Systems

The inquiry, initiated during 1819 into Governor Macquarie's administration in New South Wales and Van Diemen's Land, led John Bigge to recommend in his report of 1823 that a public authority should be established for providing primary education. The education of children in the colonies, however, was first undertaken in schools operated by religious denominations. It was not until the enactment of the Church Act in 1836 that public funding of denominational schools was provided during Governor Bourke's administration. In the Education Act of 1848, Governor Fitzroy initiated public education at the primary level through the formation of two boards: the Board of National Education, which administered the non-denominational, national schools; and the Denominational Schools Board, which administered the denominational schools. At the same time, dual systems were also established in the colonies in Van Diemen's Land and Western Australia, although South Australia introduced a single Central Board of Education to administer national schools in 1851. The pattern of a single authority was gradually adopted in the other colonies: in Queensland in 1860 and Victoria in 1862, both of which had inherited the dual system from New South Wales before separation in 1859 and 1851 respectively; in New South Wales in 1866; in Tasmania in 1868; and in Western Australia in 1871. The passage of this legislation was followed by a series of enactments creating departments of education in the six colonies: in 1872 in Victoria; in 1875 in South Australia and Queensland; in 1880 in New South Wales; in 1885 in Tasmania; and in 1893 in Western Australia. These enactments determined the pattern of involvement by colonial and subsequent state governments in funding a centralised, public system of primary education, which was later supplemented by secondary education.

The transfer of decision-making authority from local school boards, which were formed in each of the colonies during the mid-nineteenth century, has been attributed to various factors by different commentators. Payne (1968) argued that the Board of National Education in New South Wales deliberately imposed centralisation, whilst Ely (1971) argued that the Board of National Education acquired the responsibilities of local school boards after central administrators concluded that the local school boards had failed to fulfill their duties between 1848 and 1855. On the other hand, Mumford (1994) concluded that the Board of National Education fostered local school boards between 1848 and 1866. Hirst (1967) argued that centralisation provided by the Education Act of 1875 in South Australia, which strengthened the powers of a new Council of Education and reduced the responsibilities of district councils by replacing them with boards of advice, resulted from improved financial means for central funding of schools, and the attitudes of leading South Australians that district councils and local residents were not competent to deal with educational matters, local control would lead to dissension between sectarian groups, and local control would result in different systems in the various localities. Fletcher (1978) attributed the transfer of responsibilities for teacher appointments, supervision and student attendance from district boards in Western Australia to the colonial department of education in the 1890s to the maintenance of economic efficiency.

The school curriculum in the Australian colonies during the nineteenth century was derived from the United Kingdom. The Irish National System, introduced as a means of reducing sectarian dissension between Catholics and Protestants, exerted a strong influence through the use of Irish National Society textbooks and readers. Although uniformity of educational provision was sought through the use of common courses and curriculum materials, the lack of materials and equipment, inadequately trained teachers and widely scattered schools with rudimentary facilities hampered the development of education. The influence of the British government's Revised Code of 1862 on Australian education, which placed an emphasis on examination results as a means for determining teachers' salaries and promotions, led to rigidly prescribed syllabuses for reading, writing and arithmetic. The range of subjects was extended, however, under the influence of the New Education movement during the 1890s to include mathematics, natural science, history, geography, English grammar, Latin, French, singing, manual and technical instruction for boys, and needlework for girls.

The extension of secondary education to the public systems occurred mainly during the first decades of the twentieth century. Although the colonial government in New South Wales first became involved in public education at the secondary level through the enactment of the Education Act of 1857, creating Sydney Grammar School, many of the colonial high schools were soon closed because of staffing and funding difficulties. Nevertheless, each of the state educational systems had implemented successfully, versions of secondary education by the early 1930s. Initially, secondary education developed as separate academic high schools and vocational technical schools, but under the influence of the Hadow Report of 1926 in England the secondary curriculum was broadened, and common courses were introduced. Although the years during World War II were characterised by severe reductions in expenditure on school maintenance and construction, shortages of curriculum materials, depletion of male teachers, and manipulation of the school curriculum to instill patriotism, the student leaving age and certification levels were raised in all states except Queensland (Spaull, 1982). The rapid extension of secondary education after World War II led to its reorganisation, first undertaken by the Committee appointed to Survey Secondary Education in New South Wales, chaired by Harold Wyndham, director-general of the New South Wales Department of Education (Duffield, 1990). After holding 57 public hearings in Sydney, Newcastle and Armidale between 1953 and 1955, the Committee's report was tabled in state parliament and released publicly in 1957. In 1961, a modified version of its recommendations, enacted as the Wyndham Scheme, introduced comprehensive high schools based on a four-year period of secondary education into New South Wales. Comprehensive high schools were also introduced into Tasmania as early as 1957, Western Australia in 1959, and Queensland in 1964, although Victoria and South Australia retained dual systems of academic and vocational high schools. The advent of comprehensive high schools led to the widespread adoption of particular curriculum arrangements. The first year was devoted to a common core of subjects, followed in succeeding years by a progressive increase in elective courses, and the provision of several alternative courses for the core subjects.

The development of centralised state educational systems and the reorganisation of secondary education had important implications for curriculum development. In the earlier period, the general pattern adopted by state departments of education involved delegating responsibilities for curriculum development to state curriculum committees. In the 1960s, these committees were largely controlled by curriculum branches, which had the responsibility for developing syllabuses and curriculum guides. In addition, each state department operated a statutory board to oversee the curriculum of secondary schools and to administer statewide examinations at the completion of secondary schooling. The bureaucratic model fostered in state departments of education, which favoured a prescriptive conceptualisation of curriculum decision-making, was challenged in the 1970s by the growing influence of school-based curriculum development. Marsh et al. (1990) reported that school-based curriculum development was generally imposed on educational systems by state-level administrators or provisions controlling federal funding. Its influence, however, was uneven, with the greatest effects being felt in the Australian Capital Territory, Victoria, and Western Australia. School-based curriculum development was first introduced into the Australian Capital Territory in 1977, following the establishment of the Australian Capital Territory Schools Authority. School-based curriculum development was also introduced into Victoria in 1983 as part of more extensive reforms aimed at decentralising decision-making, and in Western Australia as part of the implementation of recommendations in the report of the Committee of Inquiry into Education in Western Australia (1984).

2.2 The Development of National Collaboration

Although the Constitution, enshrining the Federation of the Australian states in 1901, preserved education within the jurisdiction of the states, a permanent council of the Commonwealth and state ministers of education, the Australian Education Council (AEC), was formed in 1936 at the behest of David Drummond, the New South Wales Minister for Education. A constitution was adopted at its initial meeting, which, in its current form, states that the mission of AEC is to promote development of Australian education by providing a forum for Australian governments, providing a basis for moving towards coordinated educational policies, providing a mechanism for fostering development of collective approaches to educational issues, and exchanging information on education in Australia and overseas. The constitution also provides for a permanent Standing Committee consisting of the directors of state departments of education, AEC Committees, Working Parties or Task Forces established according to agreed needs, an AEC Executive Committee nominated by AEC, and an AEC Secretariat to service the meetings of AEC. In recent times, the Minister for Education of New Zealand became a full member, whilst the Minister for Education of Papua New Guinea was given associate membership. Late in 1993, AEC amalgamated with the Ministers for Vocational Education, Employment and Training (MOVEET) and the Youth Ministers' Council to form a new council, the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA).

Spaull (1987) reported that the immediate objective for forming AEC in 1936 was to provide a means for state education agencies to approach the Commonwealth government to provide financial assistance for technical education, although this approach was rejected. In spite of presenting further submissions for financial assistance, AEC soon acquired as its main role one of providing a conference forum for the states on educational issues, prior to going into a long recess between 1946 and 1958. However, AEC was revived in 1958 by two directors-general of education, E.L. Robertson and Harold Wyndham, to approach the Commonwealth government to provide financial assistance for public education. This prompted AEC to conduct a survey of educational needs, which failed to convince the Commonwealth government that urgent action was required. During the 1960s, AEC became involved in devising strategies to respond to increasing involvement by the Commonwealth government in education. This led to AEC initiating a second survey of educational needs in 1968, which was conducted in 1969 and reported in 1970. Again, this needs survey failed to persuade the Commonwealth government, although its findings were used by pressure groups in the public campaign for the 1972 federal election.

During the 1970s, AEC became involved in reforming its own organisation in order to become a predominant force in national education policy. In 1972, the Commonwealth Minister was admitted to AEC as a full member. An AEC Secretariat was established in 1978, an Executive Committee in 1980 and working parties were widely used to increase its role in policy formulation in national education. This new capacity led AEC to engage in four main functions during the 1980s. Most important, AEC acted as a forum for discussion and negotiation in Commonwealth and state relations in education. Second, AEC became an agent for cooperative, internal activities between state educational systems. Third, AEC engaged in external, cooperative activity in presenting cases to federal and state governmental agencies. Fourth, AEC acted as a clearinghouse, providing information for educational institutions in Australia, and international and foreign organisations. Lingard et al. (1995) argued that under the leadership of the Federal Minister, John Dawkins, the policy influence of the ministers strengthened in AEC from 1987 at the expense of the directors-general of state and territory education agencies. Consequently, AEC became a more significant policy body in which the ministers controlled initiatives in national collaboration.

The first initiative in promoting national collaboration in Australian education, however, arose during 1928 from the visit to Australia by James E. Russell, formerly the dean of the Teachers College at Columbia University. Russell recommended to three prominent educators, H. T. Lovell, Alexander Mackie and Frank Tate, that they form plans for an educational research bureau, which would be funded by the Carnegie Corporation. These plans led to the foundation of the Australian Council for Educational Research (ACER) in February 1930. Connell (1980) reported that during its first decade of operation ACER undertook a study of correspondence education in Australia, standardised achievement and intelligence tests, conducted studies and reviews of Australian education, established a publications series, convened the New Education Fellowship conference of 1937, fostered the foundation of the New Zealand Council for Educational Research (NZCER), and undertook a study of library services with funding provided by the Carnegie Corporation.

New funding arrangements were established between ACER, the Commonwealth and state governments during the period of World War II, following the cessation of grants from the Carnegie Corporation in 1940. During the immediate post-war years, the work of ACER shifted from wartime work of assisting the armed services to education, including research on test theory, a curriculum survey, and designing selection tests for university entrance. During this period, ACER founded its library, the Australian Education Index, and established a test division. During the 1960s, ACER became more involved with activities in curriculum development through collaborative projects such as the Individual Mathematics Program, and the Junior Secondary Science Project (JSSP) in 1966, the forerunner of the Australian Science Education Project (ASEP). At the same time, ACER sponsored activities related to testing, such as the development of scholarship tests, the promotion of item banking, and specific tests for schools. The establishment of the Commonwealth Department of Education and Science in 1967 fostered involvement by ACER in the development of a national research policy, the foundation of the Australian Association for Research in Education, a survey into research in education during 1972, and involvement as a member of the International Association for the Evaluation of Educational Achievement. These developments increased its involvement in publications, and agreements were signed with Science Research Associates and American Guidance Service to market their products in Australia.

ACER remained the only educational organisation with a national perspective until the Commonwealth Office of Education was created in 1945. The Commonwealth Office of Education was initially concerned with training ex-service personnel, but later extended its activities to research on Australian education and maintaining contacts with international educational bodies such as the United Nations Educational, Scientific and Cultural Organisation (UNESCO). Increased involvement by the Commonwealth government in education occurred during the 1960s through funding Commonwealth Secondary Scholarships, establishing the Secondary Science Facilities Scheme in 1964, the Library Program in 1969, and the Child Migrant Education Program in 1970. Furthermore, the Commonwealth government replaced the Commonwealth Office of Education with the Department of Education and Science in 1967, and established the Commonwealth Schools Commission in 1973 to provide funds to schools. In spite of the growing involvement of the Commonwealth government in education, Hughes and Kennedy (1987) concluded that the long standing, conservative coalition government of the Liberal and Country parties favoured limiting federal involvement to supporting only specific-purpose programs, although calls for national action in education led AEC to organise surveys of the expected needs for education and support by the Australian Labor Party for greater involvement.

Initiatives for curriculum reform in Australian education during the 1960s were stimulated by influences from the curriculum reform movement in the United States and the United Kingdom. At this time, the states identified three priority areas for collaborative curriculum development in science, social sciences, and English. Two conferences, one on science teaching and the other on social science teaching, sponsored by the UNESCO National Education Committee, were held in 1967. Dufty (1971) concluded, however, that the effect of the conference on social science teaching varied between the states and territories, ranging from substantial influence in Tasmania to negligible effect in Queensland. The conference on social science teaching led to the formation in 1970 of a national curriculum committee, the National Committee on Social Science Teaching, whilst a conference on English teaching convened in 1972 led to the formation of the National Committee on English Teaching in 1974, and the report of a committee to review the teaching of Asian languages and cultures fostered the formation of the Asian Studies Coordinating Committee in 1974. These committees, which promoted collaborative curriculum development in these particular subject areas, functioned until their abolition in 1978.

In 1965, the Victorian Universities and Schools Examinations Board, together with ACER, developed curriculum materials for a new secondary school program for Victoria, through the Junior Secondary Science Project (JSSP). This development led ACER, together with state education agencies in Victoria, South Australia and Tasmania, to seek funds from the Commonwealth government in 1967 to extend collaboration in curriculum development to other states. This submission led the Commonwealth government to fund the Australian Science Education Project (ASEP) in 1968. ASEP, which ran from 1969 to 1974, produced 44 curriculum materials for use in junior secondary science programs. For the first time, ASEP initiated national cooperation between state and territory education agencies in Australia for the purpose of curriculum development. This project resulted in several major evaluations, as well as investigations into the processes used to develop, disseminate and diffuse curriculum materials, surveys of the subsequent use of these products in Australian schools, and an analysis of research (Edwards, 1976; Owen, 1976; Fraser, 1978; Owen, 1978; Fraser and Northfield, 1981; Fraser, 1985a; Cohen and Fraser, 1987).

Moran (1980) reported that such cooperation led state education agencies to lobby the Commonwealth government to establish a national agency for curriculum development, so that these reforms could be extended across Australia. The concept of a national curriculum centre had been formulated by the end of the 1960s, but agreement between all educational authorities for its establishment was not forthcoming until the meeting of AEC in 1973. Founded in June 1973, the Curriculum Development Centre (CDC) was allocated the functions of developing and disseminating school curricula and related curriculum materials. In December 1973, the Commonwealth Minister for Education formed an Interim Council, whose task was to develop a policy and structure for CDC. In an endeavour to identify the views of Australian educators, the Interim Council convened a national workshop, Guidelines for Curriculum Development in Australia, the outcome of which was reported by the Commonwealth Department of Education (1974). This report formed the basis for further refinement of CDC's functions, as finally published by the Curriculum Development Centre (1975). This statement identified six functions central to the operation of CDC: the conduct and support of research, development and 'seed' projects; provision of a clearinghouse and information analysis service; promotion of field services; the provision of advisory, technical and evaluative services; the provision of training in curriculum development skills; and the publication and marketing of curriculum products. Legislation in the form of the Curriculum Development Centre Act, 1975, was passed by the Australian Parliament on 27 May 1975 formally instituting CDC.

Hughes and Kennedy identified two distinct periods in the history of CDC. In the first, the greater part of the work of CDC was involved in coordinating projects such as the Social Education Materials Project (SEMP) and the Language Development Project (LDP) between 1973 and 1981 by employing processes characteristic of the curriculum reform projects in the United States. Teams from each state and territory were used for curriculum development, a commitment was made to develop 'hands-on' activities as well as including process skills, and the sets of curriculum materials were made sufficiently flexible to be adapted through a professional development function to meet the needs or abilities of all Australian students. Following a survey conducted during 1973 to identify common areas for curriculum development, the National Committee on Social Science Teaching submitted a proposal to CDC to sponsor a national project. Funding for the project, called the Social Education Materials Project (SEMP), was obtained during 1974. Eight teams of teachers produced the component materials during 1975 and 1976, which were then trialled in schools and published during 1977. Following a submission by the National Committee on English Teaching in 1976, CDC sponsored the Language Development Project (LDP), which ran from 1977 until it was suspended in an unfinished state by the closure of CDC in 1981. The work of these projects fostered several evaluations of SEMP and LDP in terms of the processes used to develop, disseminate and diffuse curriculum materials, and to surveying the subsequent use of these products in Australian schools (Madin, 1978; Elliott, 1980: Marsh and Carter, 1980; Marsh, 1983a; Christie, 1985; Piper, 1988). Furthermore, CDC initiated efforts between 1976 and 1979 to develop a Curriculum Information Service for teachers. It was not until after CDC had been reactivated, however, that the information system developed by ASCIS was first used in 1985 to input and store information on curriculum resources in the Australian Curriculum Information Network (ACIN).

The research, development and diffusion model employed in these projects, however, gradually altered to accommodate the growing commitment of Australian educational agencies during the 1970s to fostering school-based curriculum development. Marsh et al. (1990) indicated that CDC played a major part in fostering school-based curriculum development. Spring (1978) reported that CDC formed a Study Group on Support Systems in 1977 following its involvement in an international conference in 1975 and in hosting a national workshop in 1976, both of which were concerned with school-based curriculum development. The Study Group developed sets of operational principles, skills and competencies, and professional development materials for school-based curriculum development. Following completion of the Study Group's work, CDC sponsored several publications on various aspects of school-based curriculum development: Rawlinson and Spring (1981) reported the work of the Study Group; Rawlinson and Donnan (1982) reported the outcomes of both the conference and the workshop by examining the services and support networks necessary to facilitate school-based curriculum development; Davis (1980) reported on a CDC Standing Conference in 1978 about school-based curriculum development; Nettle (1981) reported a survey investigating the perceptions of teachers about the scope and limits of school-based curriculum development; Soliman et al. (1981) presented a model for school-based curriculum development; and Walton et al. (1981) reported on school-based curriculum development projects involving schools and institutions of higher education.

Towards the end of this period, CDC extended its work beyond the scope of these earlier projects to develop a core curriculum for Australian schools. Skilbeck (1980) reported that CDC began work on developing the core curriculum in 1977, when a set of papers on this topic, written by CDC staff members, was presented and discussed by the Curriculum Development Council. As a consequence, the Council established a Working Party on Core Curriculum to review research studies and school practices, consider defining a core curriculum, examine the values component of the core, consider the relationship between the core and individual processes of teaching and learning, prepare guidelines for schools to develop their own core curricula, consider implications of a core curriculum for specific groups, school decision-making, teacher education, student assessment, school organisation and accountability, and recommend practical ways of making the core curriculum adaptable to local needs. CDC also contracted researchers based at Kelvin Grove College of Advanced Education in Queensland to study the relationship between the core curriculum and values education, researchers from La Trobe University in Victoria to provide a literature review on core curriculum, and researchers from Murdoch University in Western Australia, the Victoria Department of Education and Monash University in Victoria to provide core curriculum case studies. The report of the Working Party presented to the Council in June 1979 led the CDC's director to produce a discussion paper on the core curriculum, which was published by the Curriculum Development Centre (1980), and then disseminated to all Australian schools.

The success of this initial period was checked during the 1980s by political constraints and funding restrictions. Immediately after the 1980 general election, the Prime Minister, Malcolm Fraser, appointed a committee of senior ministers, popularly known as the 'Razor Gang', to carry out a Review of Commonwealth Functions. Harman (1981) concluded that the review, which affected all portfolios by reducing Commonwealth expenditure by $560 millions, was prompted by four considerations: reducing Commonwealth public expenditure to curb inflation and return governmental functions to the states; solving budgetary problems; boosting the Prime Minister's insecure leadership; and taking advantage of the lack of public support for education at that time. The decisions of the review, which were announced on 30 April 1981, included abolition of CDC. As an alternative, the Commonwealth proposed undertaking collaborative curriculum development at the request of the states, if the state governments provided 50 percent of the costs. Although CDC closed in 1981, it was reactivated in 1984 as one of four divisions of the Commonwealth Schools Commission. Following its reactivation, Boomer (1985) reported that CDC was required to collaborate more extensively with state education agencies and other educational organisations by outposting projects of curriculum development, such as the Early Literacy Inservice Course (ELIC) and the Australian Language Levels (ALL) Project.

ELIC was adapted by the South Australia Department of Education from an inservice training program developed in New Zealand as a means of implementing Marie Clay's work on reading recovery in schools. Following its trial in South Australia during 1983 and 1984, ELIC was disseminated throughout Australia by means of a national coordination effort supported by the Commonwealth Schools Commission, CDC and participating state departments of education and independent school systems (Darwin, 1984; Kennedy and Hodgens, 1989). Implementation of ELIC, which introduced professional development as an important element in a program for the first time in Australia, led to several evaluations, case studies, and research studies (Glen, 1987; Maxwell et al., 1988; Fraser and Taylor, 1989). In 1985, CDC funded a proposal by the South Australia Department of Education to provide a common set of objectives, assessment and credentialling, to develop curriculum materials, and to provide teacher development for second language learning programs. A project team, established in the South Australia Department of Education, was coordinated by a management group and assisted by a national reference group consisting of representatives from each state and territory department of education. The Australian Language Levels (ALL) guidelines were published in 1987, and a process for dissemination and teacher development was implemented in 1987 and 1988 (Scarino, 1988; Scarino and Vale, 1988; Vox, 1990). This second period continued in spite of CDC being transferred to the Commonwealth Department of Employment, Education and Training in November 1987, and only ceased when CDC was closed in 1989.

A national agenda for reform of the Australian educational system became a major priority of the federal Labor government during the latter part of the 1980s. In 1985, a conference of directors-general of state education departments examined how national and state education agencies could collaborate to the best effect through AEC. The implications of these recommended changes were supported by the Commonwealth Minister for Employment, Education and Training in his statement of May 1988, inviting cooperation from the states towards a national effort to strengthen the capacity of Australian schools by developing a national strategy, which included national goals for schooling (Dawkins, 1988). In June of 1988, AEC formed a Working Party on Cooperative Structures to examine the collaborative relationships, governance and management of national education agencies with the view to recommending their amalgamation and rationalisation. During 1988 and 1989 the federal government worked with the states and territories through AEC to develop the national strategy for Australian schools, which was adopted at the meeting of state, territory and Commonwealth ministers of education held as the sixtieth annual Australian Education Council (AEC) in Hobart, Tasmania, during April 1989. A statement, The Hobart Declaration on Schooling, published by the Australian Education Council (1989), proposed seven initiatives: a set of ten national goals for schooling; the publication of an annual national report on schooling; national collaboration in curriculum development; the establishment of a new national agency, the Curriculum Corporation, by amalgamating CDC and the Australian Schools Catalogue Information Service (ASCIS); the use of a common handwriting style in Australian schools; the establishment of a common age for school entry; and the development of strategies to improve teacher education.

2.3 Conclusion

This historical study shows that the main issues contested in Australian educational systems during the nineteenth century related to the control and nature of schooling. A central debate concerned the role of religion in education, and the related issue of funding denominational schools. The Irish National System was widely adapted in the Australian colonies to form the school curriculum, because it was perceived to be capable of defusing religious dissension between Catholics and Protestants by disclaiming religious instruction in public schools. The issue of funding religious education was decided by the 1870s and 1880s by denying public funds to denominational schools. By this time, public educational systems had asserted their predominance under the administration of centralised boards, which gradually used their controls of funding to exclude local control of educational matters. The pattern of centralisation and uniformity was continued by bureaucracies formed during the last decades of the nineteenth century by colonial departments of education, which replaced the centralised boards. A logical conclusion to be drawn from this development, is that centralisation of decision-making authority in educational systems of the states and territories provided a sound foundation for fostering national collaboration between the Commonwealth, state and territory governments.

This study confirms that national bodies became involved initially in the 1930s, although this involvement was conditional on active participation by the states and territories. Although national roles in educational research and policy-making were established during the earliest part of this period, only the research-oriented program of ACER, which extended into curriculum development and information provision, prospered during subsequent decades. For a long period, the activities of AEC remained peripheral to policy-making in Australian education. The development of a federal role in financial support for school systems based on access and equity, which extended greatly during the 1970s, provided the stimulus for formulating a national approach in other areas, such as curricular initiatives. The focus given through ASEP to collaborative activities between the states and territories provided the immediate direction for establishing CDC as a national curriculum agency in 1973.

Few assessments of the work of CDC have been reported in the published educational literature. Connors (1980) identified consistency between the philosophy of CDC and the shifts in educational culture occurring during the 1970s, but identified that the fragmented structure of educational systems was a major difficulty for the operations of CDC during this period. She emphasised that CDC depended heavily on networks of contact officers in state, Catholic and independent systems to facilitate its programs, which encompassed many activities undertaken with limited resources and facilities. Connors reported that CDC staff members believed that its activities in developing and marketing curriculum materials were perceived by educators as valuable functions. On the other hand, CDC experienced difficulties in obtaining resources to establish a clearinghouse to provide a full-scale national information service. Connors concluded that by 1980 CDC was charting a new course for curriculum development in Australian education, by identifying that its process was moving away from large-scale curriculum development projects. Piper (1992) argued that the history of national curriculum collaboration showed that several models were employed, each progressing towards greater fragmentation as state systems demanded and won more control over the process. A cohesive national perspective, established during the progress of ASEP, gave way in turn to a federal model adopted in SEMP, a cooperative model developed by the original CDC in the 1970s, and an outposting model employed by the reactivated CDC of the 1980s. Kennedy (1993) identified four phases in national curriculum collaboration in Australian education during this period. In the initial 'committee phase', several committees acted as mechanisms for coordinating collaborative curriculum activities between the Commonwealth and the states from the early 1970s until 1978. In the second phase, CDC provided a more centralised and expanded role in curriculum collaboration between 1975 and 1981, although its program lacked focus. Kennedy asserted that the core curriculum project had the potential to provide this direction, but it came too late to prevent CDC's closure in 1981. In the third phase, the reactivated CDC operated as a semi-autonomous unit with greater focus on particular priority areas. Kennedy also identified a shift towards instrumental thinking on the part of Curriculum Development Council during this period, for instance, in promoting a national core curriculum. In the fourth phase, CDC was incorporated within the Commonwealth Department of Employment, Education and Training, but maintained its own program until it was abolished in July 1989. Kennedy concluded that CDC failed to deliver exactly what policy-makers wanted in collaborative curriculum development, which led to revitalisation of AEC as the key policy-making body in Australian education during the late 1980s and 1990s.

In conclusion, this period represents the phase when the infrastructure for national collaboration in curriculum development was established. CDC successfully oversaw large-scale curriculum development projects, began fostering new directions in curriculum provision, such as school-based curriculum development and a core curriculum, developed and published a wide variety of curriculum materials during this period, but was less successful in providing a nationwide service of evaluative information on curriculum resources. These activities formed important aspects for improving curriculum provision to Australian schools, but failed to reach the level of constituting a comprehensive process for accomplishing this end. The reason for this situation must be sought in many explanations. Most important, CDC adopted a centralised approach for curriculum collaboration, relying on consultations with senior administrators of state and territory education agencies rather than involving teachers directly by offering professional development at the school level, thereby providing them with the capacity to implement new curriculum proposals. In spite of moving in the direction of providing school-based curriculum development to meet the needs of local school systems, CDC failed to resolve the tension between its incumbent role as a central curriculum agency and the needs of school communities arising from the increasing decentralisation of decision-making in state and territory education systems. For instance, the emphasis given by CDC to developing and disseminating curriculum materials was not conducive to supporting school systems in the development of comprehensive procedures for selecting and implementing curriculum materials.

The historical perspective, identifying growth in national collaboration between federal and state-level education agencies, has been complicated by the education reform movement, which has affected contemporary education in Australia as well as other countries. The issue of national curriculum reform in Australia during the 1980s and 1990s forms the main topic discussed in Chapter 3.

CHAPTER 3

NATIONAL CURRICULUM REFORM IN AUSTRALIA

The nature and development of the current curriculum reform movement differs markedly from the curriculum reform movement of the 1960s and 1970s. During the earlier period, the curriculum reform movement relied on the research, development and diffusion model employed in a multitude of projects to foster changes in the content and pedagogy of the curriculum. Teams of scholars and educators developed curriculum materials, designed to accomplish the desired goals of the projects in terms of the principles of curriculum reform, which were then disseminated to teachers often through workshops providing inservice training. Reform of the curriculum in the late 1980s forms an important component of a broader education reform movement, particularly in the United States. Curriculum reform during this period, however, focuses on developing national curriculum frameworks, which allow teachers at the local level to incorporate their own variations. The content guidelines contained in these frameworks are then applied to develop and align curriculum materials. Whereas curriculum materials tended to drive the curriculum reform movement of the 1960s and 1970s, the attributes of curriculum materials are more dependent on the outcomes of current curriculum reforms.

The purpose of this chapter is to examine the nature of the decision-making processes and products inherent in the curriculum reform movement of the late 1980s and 1990s in Australia, and to relate these processes and products to various aspects pertaining to curriculum materials. An assumption underlying this rationale is that the development, selection and use of curriculum materials is dependent on the nature of the curriculum. This examination traces the development of national curriculum issues from their origins in the broader agenda of education reform launched by John Dawkins, the Commonwealth Minister for Employment, Education and Training, and then provides accounts of the development of the national statements and profiles, and their alignment to the curricula of the states and territories. The investigation relates to the rationale for this project by identifying the context for present and future changes in the curriculum impinging on processes for developing, selecting and using curriculum materials.

3.1 National Context

The election of the federal Labor government in 1983 initiated a period in which greater direction was defined in the growing involvement of the federal government in primary and secondary education. This involvement was perceived as having an important role for stimulating economic recovery and social equity. The Commonwealth Minister for Education asked the Commonwealth Schools Commission to review the Commonwealth specific purpose programs. In its report, the Commonwealth Schools Commission (1985) presented a five-year plan for the Commonwealth specific purpose programs between 1987 and 1992, recommending consolidation of the programs into functional groups centred on equity, school development, and national priority areas. In August 1984, the Commonwealth Minister appointed the five-member Quality of Education Review Committee to develop strategies for the federal government to improve the effectiveness and efficiency of its involvement in primary and secondary education. The committee met on eleven occasions, conducted hearings with employer, labour and education organisations, received testimonies from groups and individuals, and reviewed current national and state reports. The Quality of Education Review Committee (1985) recommended that general recurrent and capital grants should be directed to priority areas, and revising, terminating or amalgamating particular specific purpose programs into general recurrent grants.

The shift from greater direction in federal intervention to the reform of Australian education was anticipated in the review conducted by the Commonwealth Schools Commission late in 1986 with the purpose of analysing demands made on secondary education in relation to youth policy, and recommending a Commonwealth specific purpose program to follow the Participation and Equity Program. The Commission received submissions from national and state education organisations, and held public hearings in 23 education centres at which teachers and community members presented their perceptions of secondary education and youth policy. The Commonwealth Schools Commission (1987) recommended that broad national agreement should be sought in curriculum planning, and that educational systems should issue frameworks and guides from which schools should develop detailed curriculum plans. In order to attain a target of 65 percent retention of students in grade 12 by 1992, the Commission recommended that the federal government institute a Commonwealth specific purpose program for secondary education to address five aims: to promote balance, rigour, relevance and cohesion in curriculum development; to promote equitable, national compatibility and inclusiveness in accreditation, assessment and credentialling; to support the improvement of school organisation and climate; to promote inservice teacher education; and to improve links with the wider community.

Reform of Australian education became a priority for the Labor government in 1987. This reform was mooted, initially in a statement issued by the Commonwealth Minister for Employment, Education and Training in September 1987, stating that educational outcomes should be congruent with the requirements of a restructured economy (Dawkins, 1987). It proposed that a significant role be given to the higher educational system in promoting the Commonwealth's economic and social objectives. This statement was followed by a policy discussion paper (Australia, Parliament, 1987), intended to elicit responses before new legislation came into effect during 1988, and a position paper outlining changes to technical and further education, intended to increase participation, improve its quality, redistribute funds, raise industry's commitment to training, improve training for disadvantaged groups, and improve its efficiency and effectiveness (Dawkins and Holding, 1987). This legislation led to a major restructure of federal education agencies: first, the Commonwealth Department of Education was subsumed within an enlarged Commonwealth Department of Employment, Education and Training; second, the Commonwealth Schools Commission and the Commonwealth Tertiary Education Commission were merged with the Commonwealth Department of Employment, Education and Training; and third, the National Board of Employment, Education and Training (NBEET) was formed in June 1988, to which four advisory councils - the Schools Council, the Higher Education Council, the Employment and Skills Formation Council, and the Australian Research Council - reported. The reform of the higher educational system and the changes in administrative agencies had important implications for determining the priorities of primary and secondary education, in particular, reforms of teacher education and retraining, the curriculum, and funding provisions.

3.2 The Hobart Declaration on Schooling

The effect of the changes to the higher educational system and in administrative structures on primary and secondary education was specified in a policy statement of May 1988, in which the Commonwealth Minister invited cooperation from the states and territories towards a national effort to strengthen the capacity of Australian schools (Dawkins, 1988). This statement presented a rationale for developing a common curriculum framework for Australian schools to include common objectives, which would also accommodate specific content to meet particular regional needs. The curriculum framework would be supported by a common approach to student assessment and reporting. Lingard et al. (1993) interpreted this policy statement as signifying a new approach to policy making for schooling by introducing corporate federalism, in which the Commonwealth centralised aspects of policy relating to economic reform, but devolved other functions to the states.

In 1988, AEC decided to develop a statement of national goals for education in Australia. At the 60th meeting of AEC in April 1989, the state, territory and Commonwealth Ministers for Education agreed to these proposals by publishing The Hobart Declaration on Schooling, which proposed seven initiatives: a set of ten National Goals for Schooling; the publication of an annual national report on schooling; national collaboration in curriculum development; the establishment of a new national agency; the use of a common handwriting style in Australian schools; the establishment of a common age for school entry; and the development of strategies to improve teacher education. The development of national goals for Australian education was seen by many policy-makers as a critical issue during the 1980s. Connors (1989) contended that the formulation of the national goals for schooling in Australia arose from a combination of factors, including greater Commonwealth involvement in education, economic and political imperatives, and educational needs.

Common and Agreed National Goals for Schooling in Australia

1. To provide an excellent education for all young people, being one which develops their talents and capacities to full potential, and is relevant to the social, cultural and economic needs of the nation.

2. To enable all students to achieve high standards of learning and to develop self-confidence, optimism, high self-esteem, respect for others, and achievement of personal excellence.

3. To promote equality of educational opportunities, and to provide for groups with special learning requirements.

4. To respond to current and emerging economic and social needs of the nation, and to provide those skills which will allow students maximum flexibility and adaptability in their future employment and other aspects of life.

5. To provide a foundation for further education and training, in terms of knowledge and skills, respect for learning and positive attitudes for long-life education.

6. To develop in students:
   - the skills of English literacy, including skills in listening, speaking, reading and writing;
   - skills of numeracy, and other mathematical skills;
   - skills of analysis and problem solving;
   - skills of information processing and computing;
   - an understanding of the role of science and technology in society, together with scientific and technological skills;
   - a knowledge and appreciation of Australia's historical and geographic context;
   - a knowledge of languages other than English;
   - an appreciation and understanding of, and confidence to participate in, the creative arts;
   - an understanding of, and concern for, balanced development and the global environment; and
   - a capacity to exercise judgement in matters of morality, ethics and social justice.

7. To develop knowledge, skills, attitudes and values which will enable students to participate as active and informed citizens in our democratic Australian society within an international context.

8. To provide students with an understanding and respect for our cultural heritage including the particular cultural background of Aboriginal and ethnic groups.

9. To provide the physical development and personal health and fitness of students, and for the creative use of leisure time.

10. To provide appropriate career education and knowledge of the world of work, including an understanding of the nature and place of work in our society.

3.3 Role of Federal Organisations

Three federal organisations became involved in developing, implementing and monitoring the national curriculum framework. AEC, later to be enlarged to become the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA), formed the policy-making body, whilst Curriculum Corporation was the main agency involved in developing, implementing and monitoring the national curriculum framework. The Commonwealth Department of Employment, Education and Training maintained an important role in funding initiatives and professional development relating to the implementation of the national curriculum framework.

3.3.1 Ministerial Council on Education, Employment, Training and Youth Affairs

During the late 1980s, AEC became a more important policy body in setting the national agenda for education reform as the Ministers for Education under the leadership of the Commonwealth Minister, John Dawkins, asserted their predominance, whilst the role of the AEC's Standing Committee of Directors-General became less important in determining policy (Bartlett et al., 1994; Lingard et al., 1995). In 1986, the Standing Committee established a committee of Directors of Curriculum to examine national collaborative curriculum development. The Commonwealth Minister, together with the state Labor Ministers from Victoria and South Australia, had secured control of this agenda by July 1988, when the 58th meeting of AEC agreed to the exercise of 'mapping the curriculum', and preparing a statement on national goals for schooling. Following review of the draft statement for the national goals at the 59th meeting of AEC in October 1988, the National Goals for Schooling and a schedule for 'mapping the curriculum' were adopted at the 60th meeting of AEC in April 1989. Following the adoption of the eight learning areas at the 64th meeting in April 1991, AEC established CURASS at the 65th meeting in August 1991 to develop a national curriculum framework by linking the exercises in 'mapping the curriculum', the annual national report, and national profiles.

In 1990, a council of Ministers for Vocational Education, Employment and Training (MOVEET) was appointed, and met jointly with AEC for the first time at the 66th meeting in October 1991. Training issues then became more significant at subsequent joint meetings. Following their completion, the national statements and profiles were submitted, together with the key competencies, identified by the AEC's Committee on Young People's Participation in Post-Compulsory Education and Training, to the 69th meeting of AEC and MOVEET in July 1993. The ministers divided on political party lines, with the majority consisting of the state and territory Liberal or National ministers from New South Wales, Victoria, Western Australia, Tasmania, and the Northern Territory voting for the national statements, profiles, and key competencies to be referred to the states and territories for further review. This decision had the effect of shifting the initiative for further national curriculum collaboration to the states and territories. Following this meeting, the Commonwealth opened negotiations with the states and territories to overcome this impasse, but also began funding national professional associations to continue the process of national curriculum collaboration. At the 70th meeting in December 1993, AEC and MOVEET commissioned Curriculum Corporation to identify approaches being taken by the states and territories to adopt the national statements and profiles. At the request of the Council of Australian Governments, AEC amalgamated with MOVEET and the Youth Ministers' Council to form a new council, the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA).

3.3.2 Curriculum Corporation

Curriculum Corporation, which was established in 1990 as a company limited by guarantee, is governed by a board of directors consisting of representatives from each state and territory department of education, the Commonwealth Department of Employment, Education and Training, the National Council of Independent Schools Associations, the National Catholic Education Commission, and the National Board of Employment, Education and Training. In addition, the New Zealand Department of Education became a member in 1991, although the New South Wales Department of School Education did not become a member until 1993. By subsuming the functions of CDC and ASCIS, AEC intended that Curriculum Corporation should continue engaging in collaborative activities with other educational organisations for the purpose of curriculum development. However, Kemmis (1990) argued that the adoption of a centre-periphery view of curriculum research, development and evaluation, modelled on the past operations of CDC, in which curriculum materials, pedagogies and modes of assessment were developed in consultation with senior administrators of state and territory education agencies, needed to be combined with pedagogical and professional development at the school level, thereby providing teachers with the capacities and commitments to implement curriculum materials that support new curriculum proposals.

Intended to facilitate activities in curriculum development, publish curriculum materials, and provide curriculum information within the parameters of cooperation with collaborating organisations and client groups, Curriculum Corporation accomplishes this mission through three main programs: Curriculum; Publishing; and Information. The Curriculum Program aims to conduct analysis and research related to national initiatives, undertake commissioned projects, provide advisory services to member and other curriculum-related organisations, and offer advice to AEC on issues about the national curriculum framework. The Publishing Program aims to publish products of national collaboration in curriculum issues, publish selected materials for AEC, publish products developed by member organisations and other curriculum-related organisations, and market publications and products. The Information Program aims to increase the use of library and curriculum information services and products, increase awareness of accessible curriculum information for effective decision-making about learning and teaching, maintain the accuracy and currency of information, manage selected curriculum information on a database relevant to national collaboration in curriculum development, improve access to information and its delivery to member systems and their schools, provide cost effective collection, storage and dissemination of information on a database and its products and services, and assist in the development of new products and services that are compatible with the needs of member systems.

3.3.3 Commonwealth Department of Employment, Education and Training

The Commonwealth Department of Employment, Education and Training gained an important role in disseminating and implementing the national statements and profiles following their referral in July 1993 to the states and territories for further review. As part of its *One Nation* statement, the federal Labor government initiated a new National Professional Development Program (NPDP), which required employers, professional associations and universities to form partnerships to bid for NPDP funds. Dissemination and implementation of the national statements and profiles formed one of the main activities for which NPDP funds could be used. Collaboration between the Commonwealth Department of Employment, Education and Training and professional associations, representing the eight key learning areas, emerged as an important means for coordinating dissemination and implementation of the national statements and profiles (Cumming, 1993; Kennedy, 1995a). Stephens and Reeves (1993) reported on activities relating to the dissemination and demonstration of the national statement for mathematics. They reported that the Australian Association of Mathematics Teachers commenced a three-year program of professional development in the latter half of 1991 by publishing an information kit in 1992, presenting a series of eight workshops, and completing a review of the national statement in 1993 involving a survey, a national conference for teachers in mathematics education to prepare a final review report. Walters (1993) reported that five professional associations with subject expertise in technology formed the Technology Federation of Australia in August 1991 with support from the Commonwealth Department of Employment, Education and Training to demonstrate types of classroom practice which embody the philosophy and pedagogy in the national statement for technology. Davison (1993) reported that five professional associations with subject expertise in English language and literacy formed the Australian Literacy Federation to disseminate and demonstrate the national statements and profiles to practitioners in language and literacy.

3.4 National Curriculum Collaboration

3.4.1 Rationale

The development of the national curriculum framework was based on the assumptions and goals driving the broader agenda for educational reform in Australian education during the 1980s. Bartlett (1992) argued that the federal Labor government initiated economic reform in the 1980s through corporate federalism by forming the Economic Planning and Advisory Committee, consisting of both business and labour organisations, for the purpose of restructuring the economy. Corporate federalism was most evident in national curriculum collaboration in the forms of neocorporatism and corporate managerialism. Neocorporatism aimed at supporting economic outcomes by guaranteeing quality through a national curriculum framework. The management of curriculum development and implementation by AEC took the form of corporate managerialism, which was evident in four underlying concepts: curriculum was viewed in a product-like format; instrumentalism was apparent in the autocratic relationships between participating groups and in consultations; integration was seen in the drive towards uniformity and consistency in the eight learning areas and procedures for curriculum development; and purposive action was seen in the private sector style relationships within Curriculum Corporation.

The acceptance by policy-makers of the need for economic reform led to incorporation of an outcome-based education approach as a significant assumption underlying national curriculum reform. Ruby (1993) stated that economic reform intended to increase productivity and quality of goods and services led to incorporation of an outcome-based education approach in three areas of curriculum reform: the national statements and profiles; the proposals for different pathways and a common set of generic competencies for increasing participation in grades 11 and 12; and the pedagogical and work organisation changes associated with these proposals. The incorporation of an outcome-based education approach in the national curriculum framework led to an emphasis being placed on the national profiles. For instance, Wilson (1993) stated that the intent of the national profiles lay in accountability and providing a counterpart to the key competencies. The emphasis on outcome-based education perturbed mathematics educators, in particular. Ellerton and Clements (1994) argued that the application of an outcome-based education approach to develop the mathematics profile led to an instrument that was deficient in measuring student progress, a view supported by most professional associations of mathematics educators. Ellerton and Clements attributed this situation to the failure of CURASS to consult university-based mathematicians, and later to politicians' and bureaucrats' refusals to heed their advice.

The ready acceptance of these assumptions about the knowledge and values of national curriculum reform, and their application to meet economic reform in Australian society, led policy-makers to apply a centrally imposed decision-making model for developing and implementing the national curriculum framework. Marsh (1994) asserted that the authority innovation decision-making model of curriculum change, whereby decisions were made by superordinate groups and carried out by subordinate groups, was applicable to the process of developing the national statements and profiles between 1986 and 1993. Marsh identified that the Commonwealth, state and territory ministers for education, AEC, CURASS, Curriculum Corporation, Commonwealth Department of Employment, Education and Training, directors of accreditation agencies, and state and territory departments of education formed superordinate groups, which interacted through complicated relationships based on hierarchy, formal and informal contacts. Subordinate groups, which lacked the same degree of access to knowledge as the superordinate groups, were excluded from decision-making concerning the national statements and profiles.

The decision-making model applied to national curriculum collaboration shaped assumptions and goals about the subject matter content. Whilst there was little debate in AEC about the scope of the learning areas for Mathematics, English and Science, Marsh reported that the major decisions about the allocation of subject matter content to other learning areas was made at the AEC meeting in April 1991. There was considerable debate from state ministers, reflecting lobbying by various interest groups, which resulted in a pragmatic and idiosyncratic organisation of subject matter content in four learning areas: Technology; Studies of Society and the Environment; Health and Physical Education; and the Arts. Arguing that the specification of the learning areas led to arbitrary divisions in subject matter content, Collins (1994) concluded that the arbitrary structure of subject matter content in some leaning areas produced national statements, which are so broad and bland as to be worthless, whilst the ordering of levels in the national profiles represents the developmental learning of the majority of students, failing to take account of individuals who do not fit this pattern.

3.4.2 Development of the National Statements and Profiles

The first initiative for developing a strategy of national collaboration in curriculum development occurred at a conference of directors-general from all state and territory departments of education held in September 1986, at which a paper was presented, drawing attention to duplication, variable quality and escalating costs of curriculum activities. This led to the assignment of a working group of directors of curriculum to identify areas of common interest, collaborative procedures, potential costs, and time frames for national collaboration in curriculum development. In 1987, AEC agreed to proceed in this direction, and the working group of directors of curriculum continued its work.

Commencing in July 1988, AEC initiated a two-phase process, referred to as 'mapping the curriculum', as part of a broader AEC National Collaboration in Curriculum Program. The first phase, mapping the general curriculum, was applied to document curriculum policies operating in each state educational system. The results of this study showed that, whilst similar subject areas were offered in both primary and secondary levels of each system, there was considerable diversity in subject content, teaching styles and allocation of teaching time. It also showed considerable variation in the designation of core and elective subjects between different systems, although a core curriculum was identified for six learning areas: English; Mathematics; Science; Social Studies; the Arts; Health and Physical Education. The second phase, mapping specific subject areas, was intended to identify differences in content and process between educational systems by screening research reports, policy statements and strategies, guidelines and frameworks, syllabuses, courses and units of work, curriculum materials, assessment materials, parent and community materials, and teacher development programs in eight learning areas: Mathematics; Science; Technology; English and Literacy; Study of Society and Environment; Health, Physical Education and Personal Development; the Arts; and Languages other than English. Brewer and Francis (1990), however, identified alacrity, reliance on centralised curriculum efforts, and lack of consultation with teachers as important limitations in the approach applied in these early activities of 'mapping the curriculum'.

The purpose of the two-phase process was to provide the foundations for developing national statements, defining the learning area and outlining essential understanding and skills. Each national statement is organised into strands, components of content, process, and conceptual understanding in the learning area. Each strand is organised into four bands, equivalent to grade levels, with Band A equating to grades 1 to 4, Band B to grades 4 to 7, Band C to grades 7 to 10, and Band D to grades 11 and 12. Also in 1988, AEC formed a working party to develop a discussion paper for a national approach to monitoring student achievement, which was presented in mid-1990. It recommended that profiles, describing the progression of learning outcomes typically achieved by students through grades 1 to 10, should be specified according to eight levels of achievement. As well as level statements, each profile includes three other components: outcomes, describing in progressive order the understanding and skills that students typically acquire; pointers, which are indicators of student achievement of an outcome; and annotated work samples, showing student work which demonstrates the achievement of one or more outcomes at a level. In December 1990, AEC contracted the Australasian Cooperative Assessment Program to develop profiles for Mathematics and English.

A project to develop a national statement for Mathematics was initiated by AEC, and conducted as a pilot study late in 1988 (Brewer, 1991; Willis and Stephens, 1991; Ellerton and Clements, 1994). The development of the national statement for Mathematics was undertaken by a project team, supported by a reference group and consultants, and guided by a steering committee of the directors of curriculum with management and support services provided by the New South Wales Department of Education. The project involved four consecutive stages: first, identifying and screening policy documents and curriculum materials for mathematics, and synthesising the information to form a 'map', which was released by AEC in March 1990; second, preparing and publishing the national statement during 1990 and the first six months of 1991; third, disseminating the national statement; and fourth, preparing, trialling and publishing assessment profiles for each of eight levels of student achievement from grades 1 to 10, which would enable student progress to be monitored against national achievement levels, and schools to report comparable information on student achievements.

A National Statement on Mathematics for Australian Schools, published by Curriculum Corporation (1991a), consists of two parts. The first part, Principles for School Mathematics, defines the nature and significance of mathematics and specifies student groups who could gain from the study of mathematics, explicates the goals of mathematics, and analyses the research basis, principles and conditions affecting student learning. The second part, The Scope of the Mathematics Curriculum, categorises the content of the mathematics curriculum into eight strands: attitudes and appreciations; mathematical inquiry; choosing and using mathematics; space; number; measurement; chance and data; and algebra. It states that teachers should use a variety of print materials, indicating that no single material available is likely to cater for the needs of all students. The need to apply criteria for selecting materials is stated, and attention is drawn to screening materials for racist and sexist biases, controversial issues which may offend particular groups, and readability. The national statement identifies that particular curriculum materials are appropriate for each of the four bands. In Band A, teachers should use concrete materials to develop mathematical skills, knowledge and processes. In Band B, teachers should continue to use concrete materials, but should also introduce mathematical skills, knowledge and processes through newspapers, magazines, text materials, and computer programs. In Bands C and D, teachers should use concrete materials, encyclopaedias, yearbooks, newspapers, magazines, text materials, and computer programs. In addition, a guide for parents and the community was also developed through consultations with parents, teachers, teacher educators, professional associations, mathematicians, curriculum developers, and community groups (Curriculum Corporation, 1991b).

The success of the pilot study in Mathematics led AEC to initiate similar activities under the direction of the directors of curriculum in Science, Technology, English, and the Study of Society and Environment. The first stage in developing a national statement for Science was commenced in 1990 with the 'map' indicating that the national statement should use an approach linking science with technology in a social context, and emphasise the professional development of science teachers. The second stage of preparing the national statement was begun late in 1990 and completed in late 1992. The third stage of preparing and trialling the assessment profiles was also completed late in 1992. Following their reference to AEC in July 1993, the national statement (Curriculum Corporation, 1994a) and profile (Curriculum Corporation, 1994b) for Science were then published, and disseminated to each state and territory educational system in 1994. *A Statement on Science for Australian Schools* consists of two parts. The first part defines the goals of science education, explains the principles for effective learning experiences in science, defines key science curriculum principles for curriculum developers, and defines the contexts of learning science. The second part categorises the content of the science curriculum into five strands: working scientifically; Earth and beyond; energy and change; life and living; and natural and processed materials. It states that particular curriculum materials are appropriate for each of the four bands. In Band A, teachers should use books, films and pictures, but direct experience forms the main way students become informed about the sciences. In Band B, teachers should use films, television and computer programs, as well as books, to present practical applications of the sciences. In Band C, teachers should use a wider range of print materials to encourage students to research information concerning scientific topics. In Band D, teachers should be guided by specific subject syllabuses offered by accreditation agencies, when selecting appropriate curriculum materials.

The first stage in developing a national statement for Technology was also commenced in 1990 with the 'map' indicating that systems were producing resources in different areas with little overlap. The second stage of preparing the national statement was begun late in 1990 and completed in late 1992. The third stage of preparing and trialling the assessment profiles was also completed late in 1992. Following their reference to AEC in July 1993, the national statement (Curriculum Corporation, 1994c) and profile (Curriculum Corporation, 1994d) for Technology were then published, and disseminated to each state and territory educational system in 1994. *A Statement on Technology for Australian Schools* consists of two parts. The first part describes the role of technology in society, the importance of technology, the place of technology in the curriculum, and the importance of technology for all students. The second part categorises the content of the technology curriculum into four strands: designing, making and appraising; information; materials; and systems. It states that particular curriculum materials are appropriate for each of the four bands. In Band A, teachers should use curriculum materials, which present sketches, plans, diagrams, models and charts that students may use for practical studies in technology. In Band B, teachers should use diagrams, drawings, simulations, models, manuals and reference materials for students to plan practical studies and research about information, materials and systems in technology. In Band C, teachers should use manuals and computer programs for practical studies, and reference materials for research. In Band D, teachers should be guided by specific subject syllabuses offered by accreditation agencies, when selecting appropriate curriculum materials.

Begun in 1990, the first stage in developing a national statement for English, forming a 'map', also identified curriculum provisions and priority areas. The second stage of preparing the national statement was undertaken between late 1990 and mid-1992. The third stage of preparing and trialling the assessment profiles was undertaken in 1991 and completed late in 1992. Following their reference to AEC in July 1993, the national statement (Curriculum Corporation, 1994e) and profile (Curriculum Corporation, 1994f) for English were then published, and disseminated to each state and territory educational system in 1994. *A Statement on English for Australian Schools* consists of two parts. The first part explicates the goals of the English curriculum, defines literacy, defines standard Australian English, and presents a philosophy for learning English. The second part categorises the content of the English curriculum into two strands: texts; and languages. It classifies texts into three broad categories: literature including picture books, traditional stories, novels, feature films, short stories, plays, poetry, newspaper articles, translated works, students' writings, biographies, and filmed documentaries; mass media, including television, video, print, computer software, and radio; and everyday texts, such as those associated with daily life, specialised demands of schooling, and the world of work. In Band A, teachers should use stories, poems, plays, short films, fiction and non-fiction books in literature studies. In Band B, teachers should use stories, poems plays and novels in literature studies. In Band C, teachers should use contemporary novels and short stories, poetry, contemporary and classic plays, and contemporary feature films to explore moral, psychological and philosophical issues in literature studies. In Band D, teachers should be guided by specific subject syllabuses offered by accreditation agencies, when selecting appropriate curriculum materials. At this level, teachers should use a wide range of literature, emphasising works written by Australians, to encourage students to interpret their construction and themes.

The first stage in developing a national statement for the Study of Society and Environment was commenced in mid-1990 through negotiation with the states and territories, because the learning area was organised in a different way. The 'map' identified that curriculum programs, including both professional and student components, should be developed for environmental education, Aboriginal and Torres Strait Islander studies, Asian and Pacific studies, and political and cultural studies. The second stage of preparing the national statement was undertaken between late 1990 and mid-1993, although its development did not proceed smoothly. In October 1992, CURASS dismissed the original five-member project team, consisting of representatives from the Queensland Department of Education and the Australian Federation of Associations for Studies of Society and Environment, reportedly because of the radical ideological perspectives the team presented in the national statement (Gilbert et al., 1992; Hoepper, 1993). The third stage of preparing and trialling the assessment profiles was also completed in mid-1993. Following their reference to AEC in July 1993, the national statement (Curriculum Corporation, 1994g) and profile (Curriculum Corporation, 1994h) for the Study of Society and the Environment were then published, and disseminated to each state and territory educational system in 1994. *A Statement on Studies of Society and the Environment for Australian Schools* consists of two parts. The first part defines the nature and purpose of studies of society and the environment, defines outcomes, defines essential learning about Australia, describes the role of values, defines seven curriculum perspectives, and specifies inclusion of all student groups. The second part categorises the content of the studies of society and the environment curriculum into six strands: investigation, communication, and participation; time, continuity, and change; place and space; culture; resources; and natural and social systems. It states that particular curriculum resources are appropriate for each of the four bands. In Band A, teachers should use stories, maps and photographs to encourage students to imagine the world beyond their immediate environment. In Band B, teachers should extend the range of media used in their classrooms to include texts, atlases, encyclopaedias, yearbooks, videotapes, and audiotapes to broaden the repertoire of information sources. In Band C, the statement implies that teachers should use the full range of available curriculum materials to encourage students' capacities for abstract thought and independent thought. In Band D, teachers should be guided by specific subject syllabuses offered by accreditation agencies, when selecting appropriate curriculum materials.

The lack of coordination between the respective groups managing the statements and profiles led AEC in August 1991 to appoint the AEC Curriculum and Assessment Committee (CURASS), comprising representatives of each state and territory department of education, the Commonwealth Department of Employment, Education and Training, the National Council of Independent Schools Associations, the National Catholic Education Commission, the New Zealand Department of Education, the Australian Council for Educational Research, the New Zealand Council for Educational Research, and Curriculum Corporation, to manage the development of national statements and profiles. The main role of CURASS was to coordinate the management bodies working in each learning area, which in each case comprised three main groups: a project team of three or four members; a steering committee of directors of curriculum; and a national reference group, which consulted with various interest groups. CURASS also refined the three stages of the process. In some instances, a preliminary stage, which involved surveying and screening available curriculum materials and research documents, preceded the first stage. The first stage involved preparing a brief to define the learning area, and to direct the writing of the statement and profile. The second stage involved preparing and writing the national statement, which identified the content in each learning area and provided a conceptual framework of the main knowledge and skills for curriculum developers to develop curriculum guides. The third stage involved preparing, trialling and publishing national profiles, identifying strands for each curriculum area as a basis for reporting student achievement, publishing the national statements, preparing, validating and publishing national profiles, and identifying, preparing and producing professional materials to support the implementation of the national statements and profiles (Brewer, 1992; Hannan and Wilson, 1992). By October 1993, CURASS had adopted a standard terminology for the profiles in each of the eight learning areas, consisting of four elements: a statement about characteristics of student achievement; outcome statements describing the skills and knowledge students should acquire; pointers providing indicators of attainment; and work samples of student work. A schedule was also delineated for completing the publication of briefs, statements and profiles in each learning area of the national curriculum framework by mid-1993.

The new process, defined by CURASS (Curriculum Corporation, 1994o), was applied to develop national statements for the remaining three learning areas: Health and Physical Education; the Arts; and Languages other than English. The first stage in developing a national statement for Health and Physical Education was commenced late in 1991 with a literature review followed by a brief, which was completed in mid-1992. The second stage of preparing the national statement was undertaken between late 1992 and mid-1993. The third stage of preparing and trialling the assessment profiles was also completed by mid-1993. Following their reference to AEC in July 1993, the national statement (Curriculum Corporation, 1994i) and profile (Curriculum Corporation, 1994j) for Health and Physical Education were then published, and disseminated to each state and territory educational system in 1994. *A Statement on Health and Physical Education for Australian Schools* consists of two parts. The first part defines the key principles and values of health and physical education, and explicates the goals of health and physical education. The second part categorises the content of the health and physical education curriculum into three strands: communication, investigation, and application; human functioning and physical activity; and community structures and practices. It states that particular curriculum resources are appropriate for each of the four bands. In Bands A and B, teachers should use reading materials to develop students' understanding of human functioning and physical activity, and community structures and practices. In Band C, teachers should use a wider range of print materials to encourage students to research information about health and physical education. In Band D, teachers should be guided by specific subject syllabuses offered by accreditation agencies, when selecting appropriate curriculum materials.

The first stage in developing a national statement for the Arts was commenced late in 1991 with a literature review followed by a brief, which was completed in mid-1992. The second stage of preparing the national statement was undertaken between late 1992 and mid-1993. The third stage of preparing and trialling the assessment profiles was also completed by mid-1993. Following their reference to AEC in July 1993, the national statement (Curriculum Corporation, 1994k) and profile (Curriculum Corporation, 1994l) for the Arts were then published, and disseminated to each state and territory educational system in 1994. *A Statement on Arts for Australian Schools* consists of two parts. The first part specifies five key arts forms, defines and analyses the arts, describes approaches to learning in the arts, and specifies across-curricular perspectives. The second part categorises the content of the arts curriculum into five strands: dance; drama; media; music; and visual arts. It states that particular curriculum resources are appropriate for each of the bands. In Band B, teachers should use plays for drama presentations, and reading materials to show how media products are used in social and historical contexts. In Band C, teachers should use a wider range of print materials to encourage students to research various aspects of the arts in past and present contexts. In Band D, teachers should be guided by specific subject syllabuses offered by accreditation agencies, when selecting appropriate curriculum materials.

The first stage in developing a national statement for Languages other than English was commenced late in 1991 with a brief, which was completed in mid-1992. The second stage of preparing the national statement was undertaken between late 1992 and mid-1993. The third stage of preparing and trialling the assessment profiles was also completed by mid-1993. Following their reference to AEC in July 1993, the national statement (Curriculum Corporation, 1994m) and profile (Curriculum Corporation, 1994n) for Languages other than English were then published, and disseminated to each state and territory educational system in 1994. *A Statement on Languages other than English for Australian Schools* consists of two parts. The first part defines student groups, learning experiences, outcomes, entry points, providers, types of programs, modes of delivery, provisions for Aboriginal and Torres Strait Islanders, the role of Australian Sign Language for the deaf in languages other than English. The second part categorises the content of the languages other than English curriculum into three strands: oral interaction; reading and responding; and writing. It states that particular curriculum materials are appropriate for each of the four bands. At Band A, teachers should use posters, big books, and simple storybooks with familiar content and vocabulary for reading. In Band B, teachers should use charts, posters, maps, stories, and poems for reading and comprehension. In Band C, teachers should use magazines, newspapers, stories, plays and poems for reading, comprehension, and discussion. In Band D, teachers should be guided by specific subject syllabuses offered by accreditation agencies, when selecting appropriate curriculum materials, but could use novels, short stories, extracts from magazines and newspapers, poetry, as well as feature films.

Boston (1993) reported that development of the statements and profiles represented the most significant collaborative activity in Australian education, involving thousands of teachers preparing documents, consultations with more than 250 organisations, trials using 300 teachers in 60 schools for the statements and trials using 70,000 students for the profiles, and a validation process conducted by ACER using 1,600 teachers and 20,000 students. Francis (1993) reported that the statements and profiles for each of the eight learning areas were completed in June 1993, and then referred to AEC for approval.

3.4.3 Professional Responses and Adoption

Following a forum held by the Australian Mathematical Sciences Council (AMSC) in April 1993, a group of mathematicians from the University of Melbourne, led by Professor Tony Guttmann, developed a petition, which was sent to the recently appointed Victorian Minister for Education, Don Hayward, and also circulated by electronic mail to mathematicians, statisticians and mathematics educators across Australia. In May 1993, the petition, signed by almost 400 academics, cited the mathematics profile to be substantially flawed. Late in May 1993, Minister Hayward called a meeting to consider the academics' criticisms, which led to the formation of a seven-member advisory committee to review the mathematics profile. Following public debate between the contesting groups in the press and news media, the advisory committee presented a preliminary report to Minister Hayward indicating it could not make firm recommendations about the mathematics profile, until its purpose was clarified. In the final report to the Minister in June 1993, the advisory committee presented six recommendations about the mathematics profile: it should not be adopted; it was unsuitable for making comparisons between different groups; it should be subjected to a national review; a revised version may be suitable for reporting on student transfers to other schools; a revised version may be suitable for reporting to parents; and the national review group should formulate a procedure to ensure that expert advice was obtained in future national projects in mathematics. At the same time, the Australian Institute of Physics, the Royal Australian Chemical Institute and the Australian Academy of Science found the science statement to be academically impoverished, failing to treat the sciences as separate disciplines. Although CURASS responded by issuing a refutation of assertions by the mathematics academics and meeting with representatives from the three science associations, it failed to quell the criticism.

In July 1993, AEC and MOVEET convened a meeting in Perth, Western Australia, which reviewed the employment-related key competencies, and the national statements and profiles. At a prior meeting, the ministers from the non-Labor states and territories, who commanded a 5 to 4 majority, agreed to use their majority to block adoption of the national statements and profiles. In the meeting, the ministers from New South Wales, Victoria, Western Australia, Tasmania, and the Northern Territory opposed the adoption of the employment-related key competencies and the national statements and profiles, forcing a decision from AEC that these matters should be referred back to the states and territories for further review involving consultation with their own educational communities to determine whether the initiatives should proceed. This decision was followed by considerable debate in the press and news media, which stressed the division between the Labor and non-Labor ministers in reaching a decision. The objections raised by the non-Labor states were based on fears that a prescriptive national curriculum could override states' rights in education, as well as specific criticisms about the quality of the national statements and profiles.

Several commentators have attributed the cause of this dispute to the lack of consultation between CURASS and the wider educational community. Marsh (1994) interpreted the delayed criticism during 1993 to be the consequence of restricted access faced by academics, researchers, professional associations and others to this knowledge, and the haste in producing the national statements and profiles, which limited the extent of consultations. Macpherson (1993) attributed this outcome to the lack of representativeness among constituent groups on CURASS, and to the closed nature of the consultative process CURASS used to develop the national statements and profiles, which aimed to reach decisions relatively quickly by excluding such groups as teachers, parents and lobbying by professional associations. Cumming (1992) found that efforts were made to improve consultation by restructuring CURASS into an Executive and a Secretariat in June 1992, and by involving 35 national organisations, which banded together late in 1991 as the National Education Forum (NEF) to monitor and respond to current national education policies by providing a forum for teachers, parents and students. Soon after its formation, NEF developed and adopted six principles for consultation: those affected by change should be consulted and the schedule should be publicised; the intent of consultation should be genuine and aimed at incorporating expert advice; consultation should be formal, systematic and documented, continuing throughout the change process; sufficient time should be provided for organisations to consult members; the findings of consultations should be reported publicly; and reporting should be fair, accurate and relevant.

Soon after announcement of this decision, Kim Beazley, Commonwealth Minister for Employment, Education and Training, and Ross Free, Commonwealth Minister for Schools and Vocational Education and Training, asserted that funding in education would be used to promote the national curriculum framework. At a meeting of NEF, held in August 1993, Minister Free announced that the recently approved National Professional Development Program (NPDP) would be used to fund professional associations in the eight leaning areas to promote the national statements and profiles. Furthermore, the federal government reached an accord with the national teachers' union, the Australian Education Union, to support the nationally agreed curriculum in exchange for an enterprise bargaining agreement, and provided funds to the newly established Australian Teaching Council to conduct summer schools for teachers to gain expertise relating to the national statements and profiles.

However, the dispute between the respective groups supporting and opposing adoption of the national statements and profiles widened. In August 1993, the Australian Vice-Chancellors Committee recommended that an independent body should review the eight national profiles, and further development of the national statements and profiles should be entrusted to ACER. In November 1993, the Business-Higher Education Round Table, established in November 1990 as a forum for chief executive officers from businesses and vice-chancellors from academic institutions to exchange views and promote joint initiatives, supported the view that ACER should review the national statements and profiles. AMSC also continued its opposition to the mathematics profile, and obtained a concession from Minister Free, who indicated at a meeting with AMSC representatives in November 1993, that he would support reviews of the mathematics and science profiles at the forthcoming AEC meeting in December 1993. At the same time, the Australian Association of Mathematics Teachers, which had taken a weaker stand than other mathematics associations against the mathematics profile, submitted a report to the Commonwealth Department of Employment, Education and Training suggesting that if a review of the mathematics profile was recommended, it should be undertaken by member associations of AMSC.

It seems by the time of the meeting of AEC in December 1993 that Ministers Beazley and Free had concluded that the best way of gaining the support of the non-Labor ministers lay with offering support for a national review of the national statements and profiles. The meeting, however, endorsed a motion from Virginia Chadwick, New South Wales Minister for Education, Training and Youth Affairs, calling for greater cooperation between the states and territories on curriculum issues, whilst Minister Beazley withdrew a proposal calling for the states and territories to support a national review of the national statements and profiles. The meeting also agreed that Curriculum Corporation should coordinate the collection of information from the states and territories about the adoption and implementation of the national statements and profiles. The meeting also agreed on establishing a national qualifications framework, which standardised senior secondary and tertiary education achievement ratings across Australia, and conducting work towards developing a common reference system for assessment in grade 12.

The compromise reached at this meeting effectively undermined the attempt by mathematics associations and academics to have the national statements and profiles reviewed, because it shifted the initiative for curriculum collaboration to the states and territories. Opposition, however, continued in a diminished form in 1994. For instance, the Business-Higher Education Round Table reiterated its opposition in September 1994 to the adoption of the national statements and profiles, following their review conducted by an expert group representing the Round Table, the Australian Academy of Science, and the Australian Academy of Technological Sciences and Engineering. Decentralisation, however, meant that these groups found it more difficult to direct their criticisms to a particular organisation responsible for curriculum collaboration.

3.5 Strategies for Improving Quality in Curriculum Resources

Following adoption of the national statements and profiles, the Commonwealth Department of Employment, Education and Training commissioned Curriculum Corporation to specify guidelines to assist developers and publishers from governmental agencies and other non-commercial publishers produce high quality curriculum resources, which are consistent with the national curriculum framework. This initiative led to the conduct of two projects: the first involved specification of guidelines for developers and users of interactive multimedia courseware; and the second involved specification of guidelines for developers of other curriculum resources.

3.5.1 Interactive Multimedia Courseware

In 1993, the Commonwealth Department of Employment, Education and Training funded Curriculum Corporation and Open Learning Technology Corporation, based in Bedford Park, South Australia, to conduct a project to specify guidelines for providing advice about interactive multimedia courseware to potential purchasers and users, and courseware developers. The project involved conducting national consultation with educators and experts at a National Interactive Multimedia Forum held in August 1993, and convening a reference group of experts to develop the guidelines.

The guidelines, published by Curriculum Corporation (1995a), are related to relevant international and national issues and trends, the educational benefits of interactive multimedia courseware, standards for computer hardware, and strategies for implementation. The educational guidelines are categorised into three sets: enhancement of school curriculum; support for student learning; and support for teachers. The first set specifies that interactive multimedia courseware should fulfill seven requirements: complement existing curriculum resources, and teaching and learning approaches; relate to specific elements of the national statements and profiles; establish compatibility between design and teachers' use in educational settings across Australia; match the social, cultural, and educational needs of Australian students to appropriate levels; comply with social content standards in relation to gender, age, ethnicity, and socio-economic status; support a range of extension activities; and be appropriate to the medium. The second set specifies that interactive multimedia courseware should facilitate student learning in five ways: match student readiness, rates of learning, cognitive and affective abilities, learning styles, and attainment levels; provide suitable modes for beginners in information technology; offer flexibility in using the courseware; apply to a wide range of learning situations; and provide for student assessment, tracking and profiling. The third set specifies that interactive multimedia courseware should support teachers' work in five ways: complement and extend their teaching styles and practices; focus on achievement of student outcomes; integrate the courseware with other curriculum elements; manage the diversity of individual student's learning; and deal with assessment, recording, profiling and reporting student achievement.

The educational guidelines should be applied in conjunction with technical standards for computer hardware and peripherals covering seven aspects: the computer's short-term memory capacity and processing speed; magnetic and optical storage capacities; display monitor characteristics; sound reproduction and video display capacities; ability to connect and interact with local area networks, bulletin boards, and the Internet; peripheral input devices such as CD-ROM devices; and input devices such as keyboard, mouse, pen or touch screen. Sets of minimum and optimal standards, developed by the Multimedia Personal Computer Marketing Council in the United States, are reproduced. These standards are correlated with specifications for IBM, Apple Macintosh and Acorn computer hardware, and CD-ROM players used in Australian schools.

3.5.2 Other Curriculum Materials

In 1994, the Commonwealth Department of Employment, Education and Training funded Curriculum Corporation to conduct a project to specify guidelines for public and private agencies to follow in developing curriculum materials for use in Australian schools. The project involved two activities: commissioning an agency to conduct market research on the factors affecting the selection and purchase of curriculum materials in Australian schools; and developing a set of guidelines for developers and producers of curriculum materials, which was informed by the findings of the market research study. A steering committee was formed to consider both the plan for conducting the market research, and the outline plan for the guidelines. The market research study was contracted to Chris Cooper-Brown and Associates, based in Melbourne, Victoria.

Chris Cooper-Brown and Associates (1994) reported the market research study, presenting the findings from a survey by a standardised interview schedule of a nationwide area sample of 163 schools, 136 of which were conducted by telephone, whilst the remainder were administered during school visits. The findings indicated that similar processes were used by schools across Australia to select curriculum materials. Curriculum coordinators were responsible for selecting curriculum materials either directly or in consultation with committees of teachers. Materials were generally ordered by one of two ways: the curriculum coordinator ordered them directly; or the curriculum coordinator ordered them through the school's administrative structure. It was also found that the selection and ordering procedures were affected by pricing, terms of trade and level of service, and required information to be disseminated to other groups, such as the school's principal, teacher -librarian, school support systems, and suppliers of materials. Schools ordered materials throughout the year, rather than in particular seasons, and reported receiving free materials. The main sources of information about available materials came from word-of-mouth sources, mail, publishers' representatives and displays, subject associations, and professional development activities. Schools rejected materials mainly because of excessive cost, but also for bias in aspects of social content. It was found that the types of materials purchased were influenced by curriculum trends, and schools' demands for new materials were conservative. Schools purchased materials for both student and teacher use. The medium of a material did not appear to influence its selection. It was found that the procedures for selecting and ordering materials in schools were linked. The allocation of budgets tended to reflect individual schools' priorities, and thereby determined the selection and purchase of materials, which met these priorities. The cost of particular materials appeared to be an important factor in their selection and purchase, but this effect was balanced by factors relating to quality in curriculum materials. The predominant criteria schools applied to select materials related to their relevance to the curriculum, whilst criteria relating to production quality and cost were of secondary importance. The extent of service was seen by schools to be an important factor in maintaining continued dealings with publishers and distributors.

The study concluded with twelve recommendations. First, developers should initiate development of materials with research on factors affecting the selection process. Second, free materials should be of high quality. Third, developers should track approval and rejection patterns in particular types of materials. Fourth, materials should be trialled during the developmental process. Fifth, development of materials should be supported by integrated marketing and distribution systems. Sixth, the implementation of materials in schools should be supported by inservice training. Seventh, the use of computer-based and multi-media materials should be monitored in schools. Eighth, developers should provide efficient distribution and service for their materials. Ninth, developers should monitor competitive products and funding levels for purchasing materials to ensure good value is maintained. Tenth, developers should define the purpose and outcomes of producing materials. Eleventh, materials developed should provide for both teacher and student needs. Twelfth, the publication of materials should be timed to coincide with decision-making in the selection process.

The findings of this research project, together with expertise and information obtained from other sources, were used to develop the first draft of the guidelines. The draft was then distributed for consultation to representatives from state and territory education agencies, and other public and private agencies. The guidelines were then revised according to responses received from the consultation, and presented to the steering committee for approval. The guidelines, published by Curriculum Corporation (1996), consist of six component parts titled Project Initiation, Management, Consultation and Trialling, Content, Production, and Take-Up of Materials. The organisation of the subject matter in each part is similar, providing sets of guidelines and illustrations of the guidelines. Each guideline is supported by one or more strategies to attain the particular guideline. Although the guidelines are presented in sequential order, users may enter the sequence at different points, follow a different sequence, or use the guidelines as a simple checklist.

The first part, which covers several steps to be taken before developmental work on a material commences, consists of four guidelines: needs analysis; cooperative work; concept, form and purpose; and fund allocation. It recommends that developers should conduct a needs analysis to ensure that a proposed material is required. The developer should seek to cooperate with other groups having similar missions, to develop a material on a collaborative basis. Then, the developer should clarify the purpose and nature of a material by preparing a project brief. A final stage involves determining costs involved in developing a material, so the project can be funded adequately.

The second part, intended to analyse the various factors involved in organising the developmental process, consists of four guidelines: budget; timeline; skilled developers; and management structure. This part recommends that the developer should design a budget for the project, delineate a timeline, ensure the expertise of writers, and establish a management structure, which should include representative reference groups.

The third part, intended to include scope for consultation and trialling a material, consists of three guidelines: establishment of consistency between educational priorities; trials in schools; and evaluation after dissemination, First, the developer should establish the consistency between a material and educational priorities by consulting appropriate federal and state education agencies. Second, it defines the need to trial the material in schools during the developmental phase to determine its ease of use, the appropriateness of activities, and accuracy and completeness of content. Third, it defines the scope for evaluating a material following dissemination, so as to determine its use, and its strengths and weaknesses.

The fourth part, the key section of the Guidelines, consists of seven guidelines: clarity and useability; consistency with appropriate curriculum documents; student outcomes; activities; inclusivity; values development; and integration with other school resources. This part states that the developer should ensure the content of a material is written clearly, shows consistency with national and state-level curriculum frameworks and guides; presents student learning outcomes; presents activities which are appropriate to student attainment and useable in a range of ways, recognises and complies with standards for social content, promotes the development of value, and fosters the use of curriculum materials.

The fifth part, intended to improve the design of the material, specifies three guidelines: design and style; language; and format. It recommends that the developer should ensure the design of a material complements its purpose and content, the readability level is appropriate for the targeted student groups, and the choice of medium promotes its use.

The sixth part, intended to improve the adoption process, consists of two guidelines: professional development; and marketing and sales. This part suggests that the developer should consult education agencies and professional associations about supporting adoption and implementation of a material with an appropriate professional development program, and use appropriate marketing strategies.

3.6 National Curriculum Collaboration and the States and Territories

Following referral of the national statements and profiles to the states and territories in July 1993, each state and territory system engaged in various forms of consultation within its own educational community to align the national statements and profiles to its curriculum under differing circumstances. Major education reforms in Western Australia during 1987, and in New South Wales following the passage of the Education Reform Act 1990, had initiated curriculum reforms, which required readjustments to the outcome of national curriculum collaboration. In Victoria and the Australian Capital Territory, existing curriculum frameworks were more readily aligned by revision to the national statements and profiles. Important curriculum reviews were concluded during the process of national curriculum collaboration in the Northern Territory in 1992 and Queensland in 1994, which led to the development of core curricula, based on the national statements and profiles. South Australia conducted a curriculum review in 1990, but decided in 1993 to adopt and implement the national statements and profiles in their existing form. Tasmania was the only state which failed to initiate a major curriculum reform, choosing instead to adopt and implement the national statements and profiles in their existing form. The locus for this process of curriculum development was also centred in different agencies. In Queensland, Western Australia, South Australia, Tasmania and the Australian Capital Territory the process of curriculum development was centred in curriculum branches of state education agencies, whilst accreditation agencies controlled this process in New South Wales, Victoria and the Northern Territory.

In December 1993, AEC and MOVEET commissioned Curriculum Corporation to identify approaches being taken by the states and territories to adopt the national statements and profiles. Surveys were conducted by questionnaires in 1994 and 1995 to collect appropriate information from state and territory education agencies (McLean and Wilson, 1995). In its first report to MCEETYA in April 1994, Curriculum Corporation (1994p) found that all states and territories were using the national statements and profiles as a basis for curriculum development. Different patterns of adoption for the national statements and profiles, found between each of the states and territories, were reflected in different forms of advice to schools. The states and territories also reported that professional and curriculum resources were being developed or reviewed with reference to the outcome-based education approach inherent in the national statements and profiles. The states and territories were also planning training and professional development activities, including the use of professional materials developed by Curriculum Corporation, to support implementation of the national statements and profiles, and strategies to inform parents and the community. Following presentation of this report, MCEETYA requested that a second report should be presented to the MCEETYA meeting in May 1995.

In its second report to MCEETYA in May 1995, Curriculum Corporation (1995b) found that the states and territories regarded the general use of the national statements and profiles endorsed a trial of the outcome-based education approach. Most teachers had reacted positively to the national statements and profiles, indicating that they provided comprehensive curriculum provision, the benefit of a common approach for planning programs, and reporting student achievement. Concerns were expressed, however, about the complexity and volume of the documents, the lack of consistency between some statements and their corresponding profiles, inconsistencies between profiles in different learning areas, and variations in the quality of the documents. The states and territories indicated that implementation needed to proceed over either two-year or three-year periods, with most systems projecting completion of substantial implementation of state or local versions of the national statements and profiles by the end of 1997. It was found that the emphasis on implementation lay with familiarising teachers with the national statements and profiles, and reviewing school curricula. As implementation progressed, it was projected that more advice on assessment and reporting would be required, including assistance with moderation to ensure comparability of teachers' judgments about student achievement. Consideration was also given in preparing professional development to the relationships between the national statements and profiles and the issues of literacy across the curriculum, transition between primary and secondary levels, key competencies and equity. The states and territories were offering varying advice to schools for curriculum planning, although there was general consensus that the national statements offered input, whilst the national profiles provided output. Most state and territory education agencies reported that the profiles would be used to provide feedback to schools for reporting to parents, and for the possibility of establishing a link between profile and grade levels. The application of computer software programs, such as CSL Profiles, DUX and KIDMAP, were being investigated for processing data in relation to profiling for assessment and reporting.

Detailed accounts of the process of alignment of state and territory curricula and assessment systems to the national statements and profiles, which follow, are based on an analysis of these reports and other documents, together with contacts from representatives of education agencies in each state and territory.

3.6.1 New South Wales

A period of education reform, which included important curriculum reform, was initiated in New South Wales by the release of three reports in 1989. The New South Wales Education Portfolio (1989) recommended that the roles of the central executive should be reduced to policy, managerial and planning activities, ten regional administrations should be formed to perform planning, professional support and administrative activities to meet school needs, forty education resource centres should be established to support school communities, and schools should be handed responsibility for budgets and selection of school staffs. The report of the fourteen-member Committee of Review of New South Wales Schools (1989) emphasised the importance of early childhood education, the establishment of six key learning areas, the provision of electives in grades 11 and 12, flexibility in student progression between grades, creation of a new accreditation agency, and introduction of a new Education Act. Metherell (1989) presented a set of goals for schools in New South Wales, and recommended the introduction of a core curriculum of six key learning areas at the primary level and eight key learning areas at the secondary level. The Education Reform Act 1990 incorporated many of these reports' recommendations, which were to be implemented by 1995 (Gamage, 1992). Forster (1995) argued, however, that implementation of curriculum initiatives arising from these reforms, and the alignment of the school curriculum in New South Wales to the national curriculum framework, was imposed by politicians and a centralised bureaucracy.

Established in June 1990, the New South Wales Board of Studies was given the responsibility for developing and approving courses from kindergarten to grade 12 within framework statements for each key learning area. In March 1991, the Board distributed a discussion document to all schools and the wider community to provide information and invite comment on proposals. Responses to this document were considered in framing formal implementation advice issued to schools in July 1991 on curriculum and certificate requirements to take effect from 1992. This advice specified the implementation of two types of courses: courses developed for the Board by syllabus committees and implemented after advice from key learning area coordinating committees; and courses developed by groups or individual schools, which are endorsed for a three-year period by the Board's ten regional endorsement panels. In 1991, syllabus committees began developing new syllabuses covering six, two-year stages for grades K to 12, which included outcomes statements. In October 1993, the Minister for Education, Training and Youth Affairs requested the Board to apply the national statements to develop the syllabuses, and incorporate the national profiles into the syllabuses. The Board also developed teaching guides, parent guides, and curriculum materials to support each syllabus. Between 1990 and 1993, the Board developed outcomes statements and pointers for each of the syllabuses to measure student achievement. In 1993, the Board reviewed the alignment of the outcomes with the national profiles, agreeing to maintain congruence, but also to modify the outcomes to provide the most appropriate courses for use in New South Wales schools. Following presentation of the draft outcomes to teachers at consultative workshops held late in 1994, the Board decided to undertake a wider consultation early in 1995 by surveying teachers' opinions about the suitability of the outcomes statements and pointers. The report of this survey indicated that there was general support for including outcomes in the syllabuses, but that many problems were identified in applying this approach, such as interpretation of the outcomes, the consistency of the standards for the levels, outcomes and pointers, and their appropriateness to the subject.

Following a state election in March 1995, the new Labor government announced in April that consultation on syllabus development, profiles and outcomes would be suspended pending the findings of a review. The Review of Profiles and Outcomes was initiated in May 1995 by John Aquilina, Minister for Education and Training, for the purpose of investigating, consulting and reporting on three areas: the quality of curriculum documents that utilise outcomes and profiles, their consistency with principles of high quality content and best practice methods, and the need to ensure that the syllabuses are readable; the appropriateness of arrangements for implementing the outcomes and profiles with respect to the time frame and implications of new assessment and reporting practices; and recommendations for further action and review in these areas. An eight-member Review Panel was appointed, which was supported in its work by an Educational Community Committee consisting of representatives drawn from a range of academic, professional, teacher union, community and employer organisations. The Review Panel examined 568 written submissions received from individuals, public and private schools, and other interested groups in response to advertisements placed in Sydney and rural newspapers, and 168 registered ministerial letters, visited a representative sample of 25 schools across New South Wales, conducted three public hearings in Sydney, as well as hearings in the rural centres of Moree, Griffith and Forbes, met with officers from the New South Wales Department of School Education's central and regional offices, heard presentations from education consultants, and met with the Educational Community Committee on four occasions to consider the directions and issues of the review. The report of the Review of Profiles and Outcomes, published by the New South Wales Department of Training and Education Coordination (1995), was subsequently distributed to all public and private schools in New South Wales.

The Review Panel reported findings related to six areas: basic understanding; curriculum; teaching and learning; implementation; assessment and reporting; and industry and employment. The respondents indicated a wide range of attitudes towards a basic understanding of philosophical issues underlying the nature of outcomes and profiles. They supported the need for rigorous subject content and process, the use of appropriate technical language, but were sceptical about the inherent structures of the outcomes and profiles, although they viewed the outcomes supported equity. The respondents stated a wide range of opinions about syllabus documents, supporting ESL Scales, Aboriginal Studies, Visual Arts, Music 7-10, and the Early Learning Profiles more strongly than English K-6, and Human Society and the Environment. The respondents valued teacher professionalism, viewed the impact of the outcome-based education approach positively, especially because of the focus on individual learning, and the importance of teacher education in facilitating change. The respondents reported that public, Catholic and private sectors had different time frames for implementing the outcomes and profiles, the quality and use of professional materials developed by the New South Wales National Professional Development Program Consortium for training teachers to implement the outcomes and profiles varied, felt the outcomes and profiles increased their assessment workload, and parent groups were often poorly informed about implementation. The respondents believed that the outcomes and profiles approach had led to an assessment-driven curriculum, showed a confused understanding about managing assessment and reporting procedures, were concerned about the appropriateness of outcomes being imposed on syllabuses and then used for assessment, considered consultation was needed on the use of levels, language, norm-referencing, and standardised formats in reporting, believed that the reliability of the profiles for state or national monitoring had not been demonstrated, and indicated few links of the outcomes and profiles approach to certification. The Review Panel believed employment-related key competencies needed to be related to syllabus outcomes, but rejected requiring competencies to be specified in syllabuses.

The Review Panel presented 21 recommendations, which were implemented following advice from the New South Wales Board of Studies and other agencies. Intended as a reference frame for following recommendations, these included four strategic recommendations: syllabuses containing expected learning outcomes should remain the means for presenting curriculum content; a framework for outcomes should be used to develop syllabuses; New South Wales should continue to influence national curriculum collaboration; and syllabuses and professional materials should be developed by the New South Wales Board of Studies to support student equity. The Review Panel recommended that professional materials should be developed, which relate the five stages of compulsory schooling in New South Wales to corresponding levels in the national profiles. In order to facilitate adoption, the Review Panel recommended that primary syllabuses should be implemented by employing a cycle: English in 1998; Mathematics in 1997; Personal Development, Health and Physical Education between 1997 and 1999; and Human Society and its Environment between 1999 and 2000. The Review Panel recommended that outcome statements, illustrations of the standard of performance, relationship to the school certificate, and citizenship education should be incorporated in grade 7 to 10 syllabuses for English, Mathematics, Science, History, and Geography to be developed over realistic time frames. In addition, a science symposium should be convened to give advice about the Science syllabus. Furthermore, when syllabuses are reviewed, outcomes should be derived, and work samples and other units of work should be prepared. Syllabuses released, incorporating national strands and outcomes, should be used according to teachers' best judgments. The Review Panel recommended that school communities should be responsible for devising their own assessment and reporting procedures taking into account the need for efficiency, individual differences and well-being of students, standards of comparison, and diagnosis of student strengths and weaknesses. Support should be given to schools to develop assessment and reporting procedures. The Review Panel recommended that schools should participate in developing syllabus outcomes and professional materials, and that materials should be developed to explain clearly the intentions, purposes and rationale for introducing outcomes. Professional development should be based on strong input from schools, employ high quality professional materials, be centred in schools, employ diverse and flexible strategies, and provide networks between schools, institutions of higher education, professional associations, and community groups. The Ministerial Advisory Council on the Quality of Teaching should be asked to consider ways in which teacher education institutions could improve preservice training with regard to implementation of syllabuses, assessment and reporting. School community groups should be invited to participate in the preparation of professional materials and strategies for understanding the syllabuses. The Review Panel recommended that the New South Wales Board of Studies should review its procedures for developing and trialling syllabuses and professional materials to ensure teachers and academics with expertise are involved in the process. The collaboration between groups involved in the operation of the National Professional Development Program (NPDP) should be continued, but more opportunities and funding should be given to support local initiatives to incorporate outcomes into educational programs.

In August 1995, the Minister for Education and Training announced a restructuring of the New South Wales Department of School Education to be completed by December 1996. The restructuring was intended to contribute to eliminating the state government's deficit and to achieving a balanced budget within two years, and to forming a new administration which was driven by educational rather than financial imperatives. The New South Wales Department of School Education was reorganised into 18 directorates: Curriculum; Assessment and Reporting; Vocational Education; Distance and Rural Education; Training and Development; Specific Focus Programs; Student Welfare; Special Education; Administration; Finance; Technology; Legal Services; Personnel and Employee Relations; Properties; Quality Assurance; Audit; Communications and Marketing; and

Executive Services. In order to improve the quality of services to schools, the ten regions were replaced by 40 districts.

The New South Wales government also developed a Computers and Technology Strategy, which was implemented in all public schools in New South Wales during 1996. Each school was provided with a personal computer capable of being connected to a communications network, providing electronic mail, bulletin boards, and access to information services. The strategy offers students access to worldwide electronic information services capable of providing current information sources, interaction with peer groups, and communication with acknowledged international experts. A technology adviser was appointed to each district office to manage and coordinate computers and information technology. Guidelines, quality teaching ideas, and professional materials for using computers and information technology were developed in separate documents for each of the key learning areas for secondary schools, whilst a single document was developed for primary schools. The strategy also provides access for local communities to use computers and information technology in schools.

3.6.2 Victoria

In September 1984, the Victorian Minister for Education issued a paper formulating policy on curriculum development and planning for Victorian schools, which was later published in a collection of six key papers (Victoria, Minister for Education, 1985). This paper, Curriculum Development and Planning in Victoria, which supported decentralisation of curriculum development to local school communities, proposed that the school curriculum should be based in a framework with student outcomes being defined by school councils consisting of teachers, parents and community members. A three-phase Curriculum Frameworks Project was initiated in 1984 to support this policy. The first phase involved forming ten writing teams in 1984 to develop an overview statement, and statements in each of nine learning areas, and then in 1985 disseminating newsletters and a discussion paper for consultation. The second phase involved reviewing the results of the consultation, and publishing the ten statements during 1986. The third phase involved implementing the frameworks, which were published by the Victoria Ministry of Education (1988), and then adapting them to school contexts during 1987 and 1988. Several commentators, reporting on this development, found that a balance was attained between school -based management by school councils and a statewide curriculum framework and assessment system (Watkins, 1991; Caldwell, 1994; Fuhrman and Johnson, 1994).

During 1993, the attitude of the recently appointed Minister for Education, Don Hayward, towards national curriculum collaboration became increasingly ambivalent following lobbying by academics from the University of Melbourne concerning the mathematics profile. By mid-1993, the Minister's scepticism had extended to the other seven learning areas, which led to a call for the other states and territories to participate in a review of the national statements and profiles (Graham, 1993). In July 1993, the Minister requested the accreditation agency, the Victoria Board of Studies, to review the extent to which the national statements and profiles provided an appropriate framework for the curriculum, describe the full range of student achievement, and specify the processes and time frame for any trials. The review involved consultations with public, Catholic and independent sectors, subject associations, universities, the technical and further education sector, principals' associations, and industry groups in September and October of 1993. Late in November 1993, the Board was requested to develop a new Curriculum and Standards Framework covering eight key learning areas. Eight key learning area committees, each supported by several working groups, were formed in November 1993 to develop the curriculum statements based on the national statements and profiles, to develop guidelines for evaluating and reviewing programs, and to accredit courses. Following preparation of the draft in the early part of 1994, it was submitted to the Board in June 1994 before being distributed to the educational community for statewide consultation, which included field reviews of the framework in a representative group of schools. Following revision based on more than 5,000 responses received to a questionnaire administered during the consultation, the Curriculum and Standards Framework was approved by the Minister in November 1994, before being released at a public function held in Melbourne during February 1995 (Kimber, 1995).

The Curriculum and Standards Framework, published by the Victoria Board of Studies (1995a), provides the basis for curriculum planning and reporting student achievement. Based on the nationally agreed key learning areas, the Curriculum and Standards Framework consists of component frameworks for the eight key learning areas. Each component is organised into strands, which provide the key features of the content and specify learning outcomes. Each component, except for Languages other than English, is also organised into seven levels, which correspond to grade levels. The seven levels provide the basis for reporting on student achievement, largely by applying outcome statements. Public schools in Victoria are required to use the Curriculum and Standards Framework to develop courses and programs, but are not required to apply the structure to organise the curriculum.

The recommended procedure for implementing the Curriculum and Standards Framework involved following a sequence of seven steps: reviewing curriculum provision in the school; matching the components of current programs to the content coverage in the Curriculum and Standards Framework; establishing key learning area priorities; establishing school curriculum development priorities; designing strategies to address school curriculum priorities; planning programs; and designing plans for monitoring and evaluation. The Victoria Board of Studies (1995b) reported supporting implementation of the Curriculum and Standards Framework in 1995 by publishing and disseminating general and key learning area advice booklets, and conducting professional development activities in conjunction with the Victoria Directorate of School Education, Catholic Education Office and other professional organisations. In order to support implementation of the Curriculum and Standards Framework, the Victoria Directorate of School Education developed Course Advice containing suggested learning activities, curriculum resources, and assessment techniques.

3.6.3 Queensland

Review of the school curriculum in Queensland featured as an issue in the 1992 state election. Following its election, the state Labor government led by Premier Wayne Goss appointed an independent curriculum review panel, which spent 1993 visiting schools, reviewing public submissions, meeting with educational organisations and an expert reference group, and analysing documents on curriculum matters. The panel's report was submitted for public consultation from which 1,800 submissions were received and analysed. In the final report, the Review of Queensland School Curriculum (1994) presented a number of recommendations, including changes to structures for managing the curriculum, implementation of a core curriculum based on the national statements and profiles, and an emphasis on basic skills in literacy and numeracy, which were funded with $300 millions for implementation over a six-year period. The report supported an intersystemic approach between public and private sectors for consultation, collaboration and implementation of the core curriculum. Lingard and Rizvi (1995) argued, however, that the report failed to resolve the tension between recognising that rapid change requires flexibility in curriculum provision and a conservative agenda of holding teachers accountable to centrally mandated prescriptions. In order to implement the curriculum reform, the state government established the Queensland Curriculum Council in 1995 to advise the Minister on curriculum development from preschool to grade 12 by presenting a three-year strategic plan, and the Queensland School Curriculum Office to coordinate the implementation and monitoring of the strategic plan. Management of implementing the recommendations was undertaken by the Shaping the Future Implementation Unit.

The report, which endorsed the concept of a mandated core curriculum by adopting the eight learning areas of the national statements and profiles, proposed that new syllabuses should be developed over the remainder of the 1990s. A common procedure was adopted to develop the syllabuses by defining content processes and skills, specifying learning outcomes, indicating teaching times, describing electives, presenting exemplar work programs, unbiased practices and guidelines for best practices for grades 1 to 8. Each syllabus is supported by teacher's guides, containing suggested teaching approaches and learning experiences. In order to support implementation of the new syllabuses, the state government endorsed a procedure for developing, adopting and piloting new curriculum materials, whilst the Queensland Department of Education required schools to develop policies for selecting curriculum materials. In 1995, 88 coordinators were appointed and trained to support implementation of syllabuses for the eight key learning areas in each of the eleven regions. In addition, 180 education advisors, consisting of 90 mathematics specialists and 90 language arts specialists, were appointed and trained in 1995 to support implementation of the Student Performance Standards. A Charter of Values, presenting goals for the school curriculum in Queensland, was also developed in 1995.

The report recommended that basic skills in literacy and numeracy be improved by screening grade 2 students to identify children with inadequate skills, testing the skills of grade 6 students, maintaining running records to monitor children in the early childhood years, providing specialist key teachers, and implementing pilot projects in grades 8 to 10 to support weaker students. The diagnostic test for grade 2 was developed and administered for the first time in 1995, whilst ACER was contracted to develop the grade 6 test, as well as administer it in 1995 for the first time. Some 110 education advisers were appointed and trained to assist train and support 600 key teachers, as well as classroom teachers, in screening grade 2 students, moderating teachers' judgments, and subsequent interventions.

A system for reporting student achievement by Student Performance Standards was introduced progressively across the curriculum. In 1992, the Queensland Department of Education's Studies Directorate developed Student Performance Standards based on the national profiles, which were trialled in schools during 1993 for Queensland's English language arts and mathematics syllabuses. Although the Review of Queensland School Curriculum recommended in 1994 that a Student Reporting Framework should be developed for reporting student performance in each of the eight learning areas using a reduced number of items, it agreed that the Student Performance Standards could form a basis for this new framework. The Student Performance Standards for mathematics were implemented in all public schools from grades 1 to 8 in 1995 and 1996, whilst Student Performance Standards for English language arts were implemented in 1996. Implementation was facilitated by inservice training materials, developed and used to assist teachers understand the Student Performance Standards (Rout, 1995).

A number of special projects were also initiated following recommendations in the report. These included implementing recommendations from a review of educational provisions for children with disabilities, a review of student behaviour management services, career guidance and personal counselling, pilot projects for gifted students and Aboriginal and Torres Strait Islander students, pilot projects in literacy and numeracy for the secondary level, and enhancing open learning technology for schools.

The report recommended that measures to ensure quality assurance of the curriculum reform should be implemented to review the process of curriculum development, balance the provision of the curriculum in grades 7 and 10, improve the standard of curriculum delivery, and ensure processes for assessment and reporting. The Quality Assurance and School Review Directorate was formed in 1995 with the appointment of 23 regionally based officers.

3.6.4 South Australia

Following extensive consultations with teachers, parents, students, and people in the workplace and the community, the South Australia Department of Education (1990) published a key policy document, which specified goals for schools in South Australia, nine essential skills and understandings and seven areas of study closely matching the eight national learning areas, guidelines for providing quality education in schools, and requirements for complying with this policy. Huppatz (1993) reported that a set of attainment levels, intended to report student achievement in the seven areas of study, was also developed and trialled in all public schools in South Australia during 1993. The Catholic system recommended that its schools trial the profiles following a pilot study in nine Catholic schools in which researchers from the University of South Australia trialled the draft national English profile in 1992. In addition, a state reference group, representing school systems, technical and further education, the accreditation agency, business and industry was formed in 1993 to develop a proposal to implement employment-related key competencies.

As a consequence of consultations arising from the results of these trials, the South Australia

Department of Education, Employment and Training recommended in September 1993, that public schools in South Australia should transfer to implementing the national statements and profiles over a three-year period between 1994 and 1996. Copies of the national statements and profiles were distributed to schools in 1994 for familiarisation. A range of services, including a teaching and learning team, which provided training and professional development, and conferences on using student achievement information, were used to support school-based projects in assessment, reporting and transition between levels of schooling. These actions were accompanied by a review conducted during 1994 by a cross-divisional working group, which consulted teachers, curriculum officers, key educators, and professional associations, in order to develop a Curriculum Statements and Profiles Implementation Support Plan for phasing implementation of the national curriculum statements and profiles between 1995 and 1997. The plan identified five outcomes to be achieved in all schools over the three years by discussion of curriculum issues and action planning to develop programs, and procedures for assessment, recording and reporting. It also presented details for supporting schools with funding, materials development, and extensive training and professional development activities. Following distribution of the plan to schools early in 1995, the South Australia Department of Education and Children's Services announced that schools were required to report in four learning areas against the national profiles in 1996, an activity to be monitored and reviewed through a Statements and Profiles Implementation Evaluation Strategy developed in collaboration with the South Australia Quality Assurance Unit (Stehn and Smith, 1995).

The emphasis given to training and professional development in implementing the national statements and profiles in South Australia is reflected in a guide, published by the South Australia Department of Education and Children's Services (1994), which consists of four components. The first presents a rationale for adopting the statements and profiles based on the need to review and reform the curriculum as a means towards improving student learning outcomes. The second presents background information and inservice training materials for introducing teachers and parents to the national statements and profiles. The third examines practical issues of using the national statements and profiles for curriculum planning and student assessment in the classroom. The fourth provides summaries of the national statements and profiles for the eight learning areas.

3.6.5 Western Australia

Following a review of the state educational system by the Western Australia Government Functional Review Committee, the Western Australia Ministry of Education (1987) published a report recommending that the activities of the central office be reduced to planning and quality control, the formation of 29 school districts to replace 13 regions, and the implementation of school development plans, which devolved decision-making authority to schools for determining funding grants, staff selection, facilities and curriculum resources. This report also supported implementation of a unitised curriculum for grades 8 to 10, recommended in the report of the Committee of Inquiry into Education in Western Australia (1984). The Unit Curriculum for grades 8 to 10 offers pathways of study made up from short study courses spread over seven components, consisting of groups of subjects, which may be studied at six different levels of difficulty. Following piloting of the Unit Curriculum in seven schools in 1987, a set of principles to guide school planning, additional consultants and support officers, a Unit Curriculum Clearing House to produce and disseminate professional materials on the Unit Curriculum, procedures for moderating Unit Curriculum assessments, and a professional development project were initiated in 1988 to improve implementation of the Unit Curriculum in schools between 1988 and 1990. After 1990, schools continued to use the Unit Curriculum in a context of school-based decision-making about curriculum matters. In recent years, the Western Australia Department of Education has been engaged in developing a series of policy statements for each of the eight learning areas linking syllabuses and Student Outcome Statements.

In 1990, the Western Australia Ministry of Education began developing Student Outcome Statements in eight learning areas, which closely match the eight national profiles (McCreddin, 1993). The Student Outcome Statements were pretrialled in two phases: the first in 1992 involved 120 schools providing data to assess the validity and reliability of the Student Outcome Statements in English and mathematics and exploring the use of Student Outcome Statements; the second in 1993 and 1994 examined the use of Student Outcome Statements in solving issues of planning and teaching, monitoring student performance and reporting, school development and stages of schooling. A wider review of the Student Outcome Statements involving teachers, administrators and consultants from public, Catholic and independent systems, subject and principals' associations, parent, employer and community organisations, and educators from institutions of higher education was undertaken in 1993 to validate the suitability of the Student Outcome Statements for the local context in Western Australia. Working editions of the Student Outcome Standards were disseminated to all schools in Western Australia in mid-1994. Formal trials were conducted in 60 schools throughout Western Australia in 1994 and 1995 to explore the issues of the Student Outcome Statements in schools, and provide data for both working groups within the Curriculum Directorate and consultative groups drawn from the wider education community (Randall and Kerr, 1995).

3.6.6 Tasmania

The Tasmania Department of Education and the Arts (1993) published a policy statement presenting four key reference points for curriculum planning: requirements for a curriculum to which all students in Tasmanian schools are entitled; guidelines to assist schools plan a curriculum which attains student outcomes in personal, linguistic, rational, creative and kinaesthetic capabilities; standards for attaining each capability in each of the eight learning areas; and information establishing relationships between these elements. In March 1994, the Tasmania Department of Education and the Arts developed statements on the *Requirements for Balance in the Curriculum from Kindergarten to Year 12*, and the *Use of Curriculum Profiles in Tasmanian Schools and Colleges*. These statements, which were distributed to teachers for consultation in May 1994, and then revised and published in June 1994, were intended to assist schools and colleges become familiar with the national statements and profiles, and incorporate them through continuing reviews of individual curricula in the schools and colleges.

A decision was made to introduce the national profiles into schools and colleges over a period of several years. Copies of the national statements and profiles were distributed to schools and colleges in 1994 for familiarisation. The Tasmania Department of Education and the Arts (1994) also published a professional material, which was used to provide inservice training for schools throughout Tasmania in a collaborative process involving the Curriculum Services Branch and district offices. This document explained how schools and colleges could introduce the national statements and profiles through curriculum review and restructuring. It contained direction statements for each of the eight learning areas, which define the learning area, describe its goals, the scope and sequence of the content, appropriate teaching and learning methods, and offer guidance for providing content and teaching time. The direction statements were supplemented by three additional components. The first aims to align the principles of teaching and learning outlined in the national profiles with current policies, frameworks and guidelines of the Tasmania Department of Education and the Arts. The second identifies linkages and common elements between each of the profiles, and presents two models for integrating the content of several learning areas. The third examines the national statements and profiles in terms of eight cross-curricular perspectives: Aboriginal studies; career education and work-related studies; cultural diversity; gender; literacy; numeracy; students with special needs; and technology in teaching and learning. It also presented a paper on how particular profile outcomes could be achieved through integrated educational programs, or by collaborative work across learning areas.

Guidelines for each learning area, which relate to the national statements and profiles, were prepared and published in 1995. Several learning areas were identified as priorities, and a cycle for implementation was established. Implementation officers, who were appointed to each district office to assist schools and colleges review and redevelop these learning areas, focused on each national statement and profile for these learning areas, and on the guidelines that relate to them. Reporting to parents was also aligned to the national profiles. In 1995, the Tasmania Department of Education and the Arts developed a policy on reporting to parents, and guidelines for teachers on this topic.

3.6.7 Australian Capital Territory

In 1988, the Australian Capital Territory Department of Education and Training began developing curriculum frameworks for preschool to grade 12 in eight learning areas, following initiation of a five-year plan for curriculum review and renewal (Hardy, 1990). Later, a decision was made to align the ACT Curriculum Frameworks with the national statements. The work of merging these frameworks was accomplished by working parties of teachers, followed by a system-wide consultative process, which was completed in December 1993. Each of the new ACT Curriculum Frameworks consists of eight components: an introduction outlining contextual information; the definition, rationale, platform and across-curricular perspectives for the specific key learning area; outcomes of the key learning area relating to the national profiles, and assessment and reporting guidelines; scope of the learning area for developing knowledge, understanding and skills through five stages from preschool to grade 12 drawn from the national statements but adapted for the local context, and criteria for selecting content; advice on teaching and learning methods; advice on program evaluation; and the learning area profile (Australian Capital Territory Department of Education and Training, 1994). Following their release in March 1994, schools were advised to use the ACT Curriculum Frameworks for developing local curriculum guides relevant to their needs.

During 1994 and 1995, the national profiles were trialled in all public schools in the Australian Capital Territory to determine ways of using them by identifying constraints and solutions associated with their implementation, and to gather data about their quality. It was originally planned that the profiles would be implemented by 2000, but the process was affected by the priorities of a newly elected territory Liberal government in March 1995, which required the English and Mathematics profiles to be implemented by 1997 for reporting literacy and numeracy standards (Kennedy, 1995b; Richards, 1995). In addition, ACT Course Frameworks, which provide the means for developing and accrediting any program within a designated subject area and assessing and reporting student outcomes, were developed for grades 11 and 12. Catholic and private schools in the Australian Capital Territory also participated in reviewing the ACT Curriculum Frameworks and the national profiles.

3.6.8 Northern Territory

In 1992, the Northern Territory Board of Studies completed a series of lengthy reviews covering the curriculum, assessment and certification procedures for schools in the Northern Territory. In 1993, the Northern Territory Department of Education implemented a Common Curriculum Statement, which organises the curriculum into a number of key learning areas covering the transition grade to grade 10, and a Common Assessment Framework, which incorporates both school-based assessment and system-wide testing. The curriculum for grades 11 and 12 includes programs accredited by both the Senior Secondary Assessment Board of South Australia and the Northern Territory Board of Studies. The Board, which is responsible for approving the curriculum and its assessment, appoints subject area and advisory committees to guide curriculum development and implementation, the development of materials, assessment policies, and inservice programs. Cockshutt (1993) reported that the Department examined ways of aligning the Common Curriculum Statement with the national statements, and its system-wide assessment program for grades 5, 7 and 10 in urban schools, and for students aged 11 to 15 years in rural schools with the national profiles, and organised inservice training for teachers in profiling for monitoring student progress and reporting. Jacob and Cockshutt (1995) reported that a pilot project was initiated in 1995 to trial the national profiles in English and Mathematics in a small sample of schools as a mechanism for monitoring and reporting student achievement. Each school formulated a profiling plan, which was monitored by centrally-based coordinators.

3.7 Conclusion

This examination shows that national curriculum collaboration in Australia was based on establishing a balance between the demands for centralisation with the requirements for state autonomy through a consensus-building process followed by AEC and its successor, MCEETYA. In spite of the lack of mandatory legislation, this process was generally successful in ameliorating the tensions, which arose from limited consultation applied in developing the national curriculum statements and profiles through a central agency. The lack of consultation with groups, such as professional associations and academics, was responsible for igniting the controversy surrounding the mathematics profile. Whilst those groups urging for a review of the mathematics profile were motivated by concerns about its inadequacy, they failed to substantiate their criticisms for the other products. Although these groups may have contributed to altering the course of national curriculum collaboration in 1993 by forcing AEC to shift the initiative for further work to the states and territories, they failed in their prime objective of gaining a review of the national statements and profiles. In fact, the outcome of this controversy may have prevented the emergence of a procedure for reviewing and revising the national statements and profiles, an essential element for both continuing the process of national curriculum collaboration and one viewed by many participants and commentators to be necessary in rectifying inadequacies in the content of the national statements and profiles.

Curriculum Corporation monitored the ways the states and territories aligned their curricula and assessment systems to the national curriculum statements and profiles by consulting each of the states and territories. The pattern, which emerged among the states and territories, showed considerable variety, but the outcomes appear to have been limited by the nature of existing curricula and assessment systems. Curriculum reforms in Western Australia and New South Wales, which preceded release of the national statements and profiles in 1993, required readjustments in these states. Western Australia retained its Unit Curriculum, but emphasised the development and implementation of Student Outcome Statements, which are aligned to the national profiles. New South Wales aligned its syllabuses and outcomes statements to the national statements and profiles. In Victoria and the Australian Capital Territory, existing curriculum frameworks were revised to align them to the national statements and profiles. The Northern Territory and Queensland concluded curriculum reviews during the course of national curriculum collaboration, which led to the introduction and development of core curricula, based on the national statements and profiles. South Australia and Tasmania chose to adopt and implement the national statements and profiles in their existing form. Little attention, however, was given by the states and territories to devising procedures for developing, selecting and using curriculum materials as important strategies for implementing the outcomes of national curriculum reform. The major exceptions, which are reported fully in Chapter 4, involved endorsing a procedure for developing, adopting and piloting new curriculum materials and mandating selection procedures in Queensland, and developing Course Advice listing suggested curriculum resources to support the Curriculum and Standards Framework in Victoria.

Whilst the national curriculum statements and profiles were intended to form the standards for adapting curriculum plans at the state and local levels, attention was subsequently focused on the national profiles, reflecting the extent to which national competency standards have placed an emphasis on an outcome-based education approach in Australian education (Angus, 1994). The national statements, however, provide the basis for applying the curriculum developed in textbooks and other materials. This intent has been reinforced by guidelines for developing curriculum materials and interactive multimedia courseware, intended to assist federal and state governmental agencies, and non-commercial agencies produce materials of high quality, which match the intents of the national statements. Analysis of the national statements showed that the project teams and steering committees, responsible for each learning area, were concerned to identify particular types of curriculum materials considered appropriate for students in each of the four bands. However, the principle of specifying selection criteria, followed in the mathematics statement, was not adopted in developing any of the subsequent national statements for the remaining seven learning areas.

Whilst the national statements and profiles, developed through a process of national curriculum collaboration between the Commonwealth, states and territories, will form a common basis to define the content of new curriculum materials, the process of developing curriculum materials is still largely controlled by commercial, profit-making companies. This situation emphasises the importance of applying strategies, which are consistent with the processes and products of national curriculum collaboration, to select and implement curriculum materials in schools. Such consistency can be met by employing a range of decision-making processes for selecting and analysing curriculum materials, which are valid in terms of the principles of curriculum development and evaluation.

The issues of determining the relationship and congruence between decision-making processes employed in curriculum development and the selection of materials are taken up in subsequent chapters.

CHAPTER 4

A HISTORY OF PROCEDURES USED TO SELECT CURRICULUM MATERIALS IN THE STATES AND TERRITORIES

An initial intent of the project lies in determining the nature and quality of various practices used by state and territory education agencies in Australia for purchasing, selecting and distributing curriculum materials. Education agencies, founded by colonial governments during the latter decades of the nineteenth century, gained responsibility for these activities. State and territory education agencies continued these activities following the Federation of the Australian states in 1901, when the Constitution preserved education as a state jurisdiction.

These issues are treated initially by examining the historical context to identify the part played by selection and challenge procedures in the wider context of the use of curriculum materials in the educational process. The application of these procedures is analysed in the historical context in terms of their effect on policy-making in Australian education. This is followed by examination of current procedures used by each of the state and territory education agencies for selecting curriculum materials, and handling challenges to controversial materials.

4.1 Selection Procedures

4.1.1 Historical Background

Most basal readers and textbooks used in Australian schools during the nineteenth century were imported from the United Kingdom. The means used to purchase and distribute materials during the mid-nineteenth century have been reported by Vick (1988) in the context of educational practice in colonial South Australia. The 1851 Education Act in South Australia founded a seven-member Central Board of Education to provide a system for licensing teachers, regulating the curriculum, organising and managing licensed schools, and establishing a depository for school books. Initially, the Board called for tenders from local booksellers to supply the depository with sets of texts, but soon encountered their opposition because of alleged corruption in granting contracts. It then negotiated with the government to use the colony's London agent to buy textbooks and basal readers from sources in the United Kingdom. When the materials arrived in Australia, the Board impelled teachers to use the depository by offering the materials on credit at discounted prices for future sale to their students. The materials supplied by the depository were used to standardise the curriculum in the colony's schools, since the inspector took into consideration the curriculum, provision of materials, organisation, discipline, school accommodation and enrollment, as well as the teacher's qualifications and expertise when assessing applications for licenses and for setting salaries.

Basal readers were the first materials published in Australia, and used mainly in denominational schools during the mid-nineteenth century. The most widely used readers in schools administered by the Board of National Education, however, were a series produced by the Irish National Board of Education. Although this series was adapted in the 1870s for use in Australian schools, Clarke (1986) reported that the 1874 Royal Commission inquiry into education in Queensland found that the lack of Australian content in these readers rendered them unsuitable for schools in Queensland. They were replaced in the late 1870s by the Australian School Series published by Collins, and later by the New Australian Series, first published by William Brooks during the 1890s, because their content was recognisably Australian. The availability of textbooks published in Australia increased with the appearance of authors among professional educators. James Bonwick, an inspector of denominational schools in Victoria, was the most notable of Australian authors of textbooks, which he wrote during the late nineteenth century for all subject areas.

Recent research and commentary suggests that the quality and availability of textbooks and other curriculum materials were important variables affecting the provision of education in the colonial period. From an analysis of textbooks used in science programs in Australian schools between 1850 and 1939, Polya (1986) argued that the development of colonial educational systems was reflected in the coverage and content of textbooks. They revealed the development of the curriculum as educational systems expanded, educational trends prevalent in society, and ideologies of the time represented in the nature of scientific ideas presented in textbooks. On the other hand, Bryant (1980) concluded from an examination of geography programs in Victorian schools between 1850 and 1910, that changes in the curriculum occurring after 1880 were not matched by changes in teaching methods and curriculum materials until after 1900.

The limited availability of curriculum materials during the late nineteenth century is reflected in one of the few case histories reported of selection practices of that time, in this instance relating to provision of an Australian history textbook for primary schools in New South Wales. Fletcher (1990) reported that the Chief Inspector of the New South Wales Department of Public Instruction convened a conference of inspectors in May 1881 to select various history textbooks, but they failed to recommend a suitable textbook for Australian history. In May 1889, the New South Wales Minister for Public Instruction announced a public competition for writers to submit manuscripts for a suitable textbook, and appointed a three-member board comprising the Under Secretary, Chief Inspector and Superintendent of Technical Education to evaluate and recommend the most suitable one from eight manuscripts submitted. The board members were required to read each manuscript, award each a score, and require the winning author to make improvements by eliminating repetition, potentially offensive material, and political bias. The winning manuscript, however, was only adopted and published in September 1901 after being substantially revised at the instigation of the New South Wales Department of Public Instruction.

The number of Australian authors of textbooks increased markedly from the last decade of the nineteenth century. They wrote textbooks for all subject areas, but these were only aimed at the primary level. The introduction of secondary education during the early decades of this century led to an extension of textbook publishing in Australia to cater for this level. The content of Australian textbooks reflected increasingly the curricula implemented by state education agencies by incorporating new educational theories and advances in knowledge. Clarke found from an examination of Australian content contained in syllabuses, textbooks and teachers' guides used in Queensland schools between 1860 and 1970 that the incorporation of content about Australia predominated in readers and textbooks aimed at the primary level, and subject matter about Australia's physical environment preceded treatment of the cultural environment. In spite of these developments, most textbooks used in Australian schools until World War II continued to be imported from the United Kingdom.

The use of imported textbooks in Australian schools continued during the post-war period, although the main source shifted to the United States. An important consequence of curriculum reforms, occurring across state and territory educational systems in Australia during the late 1960s, was the recognition that a national agency was needed so that curriculum materials could be published that met the requirements of these reforms. Founded in 1973, CDC became an important developer and publisher of a wide variety of materials, thereby increasing the proportion of Australian publications used in schools. The restructuring of national education agencies during the late 1980s, leading to the replacement of CDC and ASCIS by the Curriculum Corporation, continued the development and publication of curriculum materials associated with national curriculum collaboration. Therefore, the involvement of a national agency, supported by the educational community, has been an important supplement during the last three decades to the function of commercial publishers in providing curriculum materials for Australian schools.

4.1.2 Selection Procedures in the States and Territories

In all states and territories, the final responsibility for selecting curriculum materials lies with individual schools. However, the role of schools is restricted to a greater or lesser extent by the activities of state and territory departments of education and accreditation agencies in influencing the selection of materials used in schools. An examination of the current situation prevailing in the states and territories indicates that some features of centralised, statewide procedures for selecting curriculum materials are maintained by state and territory departments of education in Queensland and Western Australia, whilst New South Wales, Victoria, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory maintain more decentralised procedures, based at the local level in each school.

On the other hand, a different situation prevails with respect to procedures applied by accreditation agencies for selecting materials listed in mandatory syllabuses for grades 11 and 12, and sometimes for lower grades. Accreditation agencies publish lists of materials accompanying syllabuses, which consist of three types: lists of adopted texts from which teachers are required to use materials; lists of recommended texts from which teachers are free to select materials; and lists of available texts from which teachers are free to select materials. Many syllabuses, however, do not include lists of materials. The current situation prevailing in the states and territories indicates that accreditation agencies in New South Wales, Victoria, South Australia, Western Australia, Tasmania and the Northern Territory are restrictive because they publish lists of adopted and recommended materials, whilst accreditation agencies in Queensland and the Australian Capital Territory are laissez faire, because they do not adopt or recommend texts.

The features of the procedures for selecting curriculum materials in each state and territory are now examined in greater detail.

4.1.2.1 New South Wales

Following release of a report by the New South Wales Department of Education (1981) on procedures for supplying curriculum materials and equipment to schools, two committees, the Learning Materials Committee and the Equipment Committee, were formed. These committees, which reviewed, selected and maintained an adopted list of recommended materials and educational equipment for schools, were assisted by subject-based advisory groups. Provision was made for teachers, parent representatives, and other groups to submit materials and equipment for consideration by these committees. Materials and equipment, recommended by these committees, were requisitioned annually and stored in a central depository. Each public and private school selected materials which best met its curriculum needs, purchasing them from the Primary and Secondary Cash Grant, Secondary Textbook Allowance or Subsidies Grant, provided by the state government.

In 1982, the Library Services Branch established a Materials Assessment Unit, which reviewed basic and supplementary curriculum materials, publishing annotated, indicative reviews in a journal, *Scan*. To support the acquisition of materials by school libraries, the New South Wales Department of Education (1986) recommended that each school should develop a selection policy and procedure for its school library, which provided a statement of philosophy and indicated the scope and parameters of the collection, and specified selection criteria. In 1988, editorial policy for *Scan* shifted to the publication of articles covering topics relating to the effective use of curriculum materials and information services, and the number of published reviews was reduced. In 1992, responsibility for the evaluation of curriculum materials was transferred to the Library and Information Literacy team in the Curriculum Directorate, and a panel of teachers and teacher-librarians in schools was selected and contracted to review materials. Copies of materials are sent to individual reviewers, who return the completed reviews to the Library and Information Literacy team for cataloguing onto cards and machine-readable records. The cards and records are then sent to the Curriculum Corporation for loading onto the SCIS database. Selected reviews are also published in *Scan*.

The passage of the Education Reform Act through the state parliament in 1990, led to modifications in the procedures for selecting and purchasing curriculum materials. The report of the New South Wales Education Portfolio (1989) recommended that schools should be given the primary responsibility for selecting appropriate curriculum materials to meet their local needs, and for these materials to be purchased through their own budgets from locally based Educational Resource Centres. Metherell (1989) recommended introducing a core curriculum of six key learning areas at the primary level and eight key learning areas at the secondary level, which should be implemented by 1992. Following implementation of these recommendations, eleven-member committees, consisting of a manager and one consultant from each of the ten regions, were formed in each key learning area to coordinate the development and acquisition of curriculum materials to assist teachers implement the syllabuses. Individual schools, however, retain the main responsibility for selecting curriculum materials to suit their specific needs.

The New South Wales Board of Studies, which develops syllabuses for key learning areas from grades K to 12 and accredits syllabuses for the School Certificate in grade 10 and the Higher School Certificate in grades 11 and 12, convenes committees for each syllabus to develop courses and select curriculum materials. Following challenges by the Australian Festival of Light to particular literature texts, the New South Wales Board of Studies appointed a reference group in 1992 to screen literature texts for grades 9 to 12, selected by the English syllabus committee, for controversial issues before the Board adopts a final list of texts from which all schools are required to select. The reference group consists of representatives from twelve community organisations, including the Aboriginal Education Consultative Group, Anti-Discrimination Board, Australian Festival of Light, Australian Society of Authors, Christian Community Schools, the New South Wales Department of School Education's Committee on Special Religious Instruction, Human Rights and Equal Opportunity Commission, Non-English Speaking Background Group, New South Wales Council of Churches, and parent organisations. The Board publishes an annual list of topics, projects and adopted texts for some syllabuses in grades 11 and 12, which teachers are required to use, whilst in the other syllabuses teachers are free to select materials.

4.1.2.2 Victoria

In 1968, the Library Branch of the Victoria Department of Education began publishing reviews of materials in the *School Library Bulletin*. Later, indicative reviews of basic, supplementary, non-print, reference and professional materials were published in a separate journal, *Review Bulletin*, which was disseminated to all Victorian schools as an aid for selecting materials. This service involved obtaining copies of materials from publishers, and then sending them to individual curriculum specialists, teachers and teacher librarians, who formed a network of reviewers. The completed reviews were returned to the Library Branch, where they were edited and annotated. Following review, the materials were housed in the Curriculum Materials Library, which contained a collection of curriculum and professional materials suitable for both primary and secondary levels, teaching guides, and documents related to curriculum studies. In 1984, responsibility for the *Review Bulletin* was transferred to the Information and Resources Section of the Curriculum Branch. In 1985, editorial policy for the *Review Bulletin* shifted to the publication of reviews of supplementary reading materials, articles, and bibliographies covering topics relating to reading materials. Publication of the *Review Bulletin* was terminated in 1991.

In September 1984, the Victorian Minister for Education issued a paper formulating policy on curriculum development and planning for Victorian schools, which was later published in a collection of six key papers (Victoria, Minister of Education, 1985). This paper supported decentralisation of curriculum development to local school communities through school councils consisting of teachers, parents and community members. The paper proposed that the school curriculum should be based in a framework with student outcomes being defined by school councils. Under this policy, the central curriculum branch provided schools with curriculum materials of high quality, which were selected by school councils to meet local needs. School councils were expected to apply criteria to appraise a wide range of available materials during the selection process.

The new Curriculum and Standards Framework, implemented in schools during 1995, is supported by Course Advice for each of the key learning areas, developed by the Victoria Directorate of School Education in collaboration with the Catholic and private sectors. Each Course Advice document, which is available in print and on diskette, consists of several components, including an introduction outlining its structure and discussing related issues, sample units of work at each Curriculum and Standards Framework level, annotated units, which provide specific assistance for teachers of English-as-a-second-language, and a bibliography of curriculum resources, which have been referenced within the units. The sample units, which suggest learning activities, curriculum materials and assessment ideas, are recommended as useful in addressing learning outcomes specified in the Curriculum and Standards Framework. The content of selected curriculum resources is referenced to particular topics, which support the Curriculum and Standards Framework. The bibliographies, which list all curriculum resources specified in the units, include print materials, films, videos, computer diskettes and CD-ROMs, as well as organisations, exhibitions and excursion sites. The listed materials, which were selected by the developers of each Course Advice document following advice from schools, may be used as a basis for selecting appropriate curriculum materials. The bibliography is not viewed as being an exhaustive list of available materials, and teachers are free to substitute alternative and new materials.

The Victoria Board of Studies, which accredits syllabuses in the key learning areas for the Victorian Certificate of Education in grades 11 and 12, convenes committees for each syllabus to develop courses and select curriculum materials. The Board publishes study information for schools, including adopted texts in some syllabuses, which teachers are required to use, whilst in the other syllabuses teachers are free to select materials.

4.1.2.3 Queensland

In 1971, the School Library Service in the Queensland Department of Education began providing evaluative information on curriculum materials. Initially, reviews of supplementary reading materials were published in the *Central Cataloguing Bulletin* from 1971 to 1979. In 1980, the Library and Resource Services Branch assumed responsibility for the review of basic curriculum materials, supplementary reading materials and professional materials. A Resource Evaluation Team screened and selected curriculum materials, and sent copies to individual reviewers consisting of subject specialists and teachers in schools. The completed reviews were returned to the Resource Evaluation Team, which edited and annotated them. Indicative reviews were then published in a journal, *Reviewpoint*, which continued from 1980 to 1993. In 1984, indicative reviews of computer software were first published in another journal, *SUGAR: Software Users Guide to Available Resources*, which continued to be published until 1993. Reviews of audio, video and microcomputer hardware were published in a Resource Catalogue. These journals and catalogues were circulated to all public and private schools in Queensland, where they were used as a basis for selection of materials. In addition, the Library and Resource Services Branch field-trialled materials with students in schools, provided inservice training for teachers in the selection and use of curriculum materials, and presented displays of materials for schools. All schools were funded with grants to purchase materials and equipment that met their needs. In 1992, the evaluation of curriculum materials was transferred to the newly established Open Access Support Centre. Following surveys of 65 reviewers in 1991 and schools throughout Queensland, the Open Access Support Centre found that small and remote schools, in particular, required ready access to an information service on curriculum resources. In order to increase the efficiency of the service by reducing costs and improving delivery, the Open Access Support Centre began providing reviews of print materials, audiovisual materials and computer software on an electronic database, OLI online, through the Information Access Network, the Queensland Department of Education's online system, following a trial of the service conducted in 20 schools during 1993. Information gathered from the trial was used to develop a manual for searching the OLI online database, which contains evaluations of materials published since 1990. In addition, a printed version of the database, OLI in print, is published in six issues annually.

The Queensland Department of Education implemented a policy for resource management in schools involving policies for acquiring and organising curriculum materials, and evaluating resource services. The Queensland Department of Education (1991) recommended that each Resource Management Committee, consisting of a school administrator, teacher-librarian, subject or grade coordinators, should take the main role in this activity. The selection of curriculum materials should be coordinated by the Resource Management Committee, but involve the whole staff of the school, and also students and parents in some instances. Procedures for selecting curriculum materials should be based on policies established by the Resource Management Committee. The selection procedure is initiated by teachers identifying topics requiring additional materials. The teachers then identify new materials through reference to syllabus documents, resource lists published by the department, review and subject association journals, recommendations by curriculum consultants, and materials left at the school by publishers' representatives. Samples of each material should be acquired, displayed, and screened by applying generic criteria as well as specific criteria for each medium.

Public responses to the Review of Queensland School Curriculum (1994) stressed that curriculum development associated with implementing the core curriculum should involve consultation with teachers to ensure that curriculum materials promote high quality learning, and that materials can be used successfully by a diverse range of students across a variety of school settings. As a result, the state government adopted a curriculum development procedure requiring the Queensland School Curriculum Office to develop curriculum project briefs, which detail specifications for proposed curriculum materials, approval of each design brief, establishment of an expert reference group, regular consultation with teachers to ensure each material meets student needs, trials of materials in schools, state-level adoption of each material by the Minister, and a one-year post-implementation evaluation of each new curriculum material.

The Queensland Department of Education (1995) published a policy for selecting curriculum materials requiring schools to comply with two guidelines: each school is required to formulate a written selection policy, which meets particular requirements; and each school should apply a selection procedure based on specified standards. The selection policy should encompass twelve requirements: support for the corporate mission and values of the Queensland Department of Education; cognizance of the Queensland Department of Education's policy statements, guidelines and programs with reference to quality standards, effective teaching and learning, and an unbiased curriculum; accord with the non-discriminatory philosophy stated in the school development plan; specification of learning objectives for the school resource centre; support for the school curriculum; support for appropriate teaching and learning methods within different learning areas; provision for the diversity within the student population; provision for learners' varying ages and maturity levels; specification of appropriate selection criteria; provision of procedures to handle challenges to controversial materials; provision of procedures for dealing with unsolicited materials; and provision of procedures for dealing with free materials sponsored by commercial publishers. The selection procedure should be based on four standards: a knowledge of available materials; evaluation of all materials against standards of quality and relevance to the curriculum; consideration of educational priorities; and a balance between different viewpoints, when materials cover controversial topics.

Whilst a written policy document may suffice in small schools, selection committees should be formed in large schools by using School Resource Management Committees, Human Relationships Education Consultative Committees, or School Advisory Councils. Initially, the selection committee should work with the teacher-librarian to identify the needs for curriculum materials by using a topic timetable, a display board listing the resource-using programs in all subject areas and the appropriate adoption periods, or the network of curriculum coordinators to supply information about needs for new materials. Those involved in identifying and reviewing new materials should also make use of evaluative information about curriculum materials provided by the Open Access Support Centre. The selection committee should also identify and specify directions for projected expansion in purchases of curriculum materials, and allocate the school's budget by apportionment to each learning area, when purchasing materials. It is recommended that selection committees review each material by applying a set of generic criteria, and then apply appropriate medium-specific criteria for ether fiction materials, non-fiction materials, audiovisual materials, or computer software. The selection committee should also identify controversial topics in adopted materials before purchase, review potentially controversial materials, and consult with the school community about adopted materials. Final adoption remains the prerogative of the school principal.

The Queensland Board of Senior Secondary School Studies, which accredits syllabuses in subject areas for the Junior Secondary Studies Certificate in grade 10 and the Senior Certificate in grades 11 and 12, convenes committees for each syllabus to develop courses and select curriculum materials. The Board publishes syllabuses for the Junior Secondary Studies Certificate and the Senior Certificate, which include lists of available texts from which teachers are free to select materials.

4.1.2.4 South Australia

The South Australia Department of Education (1987) reported the use of an approach for selecting curriculum materials based at the local school level. This policy statement specified that each school should develop, implement, publish and regularly evaluate a procedure for selecting curriculum materials. It recommended that each school should appoint a School Review

Committee, consisting of teachers and the teacher librarian, which may seek assistance from parents, community representatives, specialists and senior teachers. The committee should initiate the selection process by seeking suggestions from teachers and other groups about new materials. Once these materials had been identified, committee members should acquire, review and trial the materials. The committee should meet to discuss the criteria, which should cover educational value, consistency, relevance, and controversial aspects. Then the committee should screen the submitted materials, selecting those materials which meet the criteria. The selected materials should then be referred to appropriate teachers to determine ways for using them, and to identify problems and limitations.

The Senior Secondary Assessment Board of South Australia, which accredits syllabuses in subject areas for the Year 12 Certificate of Achievement in grades 11 and 12, convenes committees for each syllabus to develop courses and select curriculum materials. The Board publishes syllabuses, including adopted texts in some syllabuses, which teachers are required to use, whilst in the other syllabuses teachers are free to select materials.

4.1.2.5 Western Australia

The Library Services Branch in the Western Australia Department of Education began providing evaluative information on curriculum materials before 1967, and managed this activity until its closure in 1988. Williams and Lowther (1976) reported that the Curriculum and Research branches initiated a two-stage project to develop a procedure for reviewing curriculum materials, and then disseminating evaluative information to schools. Initially, the project involved designing four separate forms of an evaluation instrument for basic, supplementary and non-print materials, and then trialling these forms in schools. The reviewing of materials, which was subsequently undertaken by teachers, involved using the instrument to annotate background information and develop indicative reviews. The teachers' reviews were then edited to produce summaries, which were published in a journal circulated to public and private schools in Western Australia. This project formed the prototype for developing a centralised procedure to provide evaluative information for assisting schools to select curriculum materials.

In its major reform of the state's public educational system, the Western Australia Ministry of Education (1987) endorsed the continuation of this centralised procedure, recommending that the Services Branch of the Curriculum Directorate should advise schools on the selection and purchase of curriculum materials by coordinating the evaluation of materials, the purchase and distribution of audiovisual materials, the provision of a clearing house for materials relevant to students with special needs, and the publication of curriculum materials which have statewide relevance, relate to Ministry priorities, or for which commercial products are unavailable. Following this review, the Western Australia Department of Education introduced the Curriculum Materials Information Services (CMIS), which forms the basis for the selection procedure, through the Evaluation Section in the Cross Curriculum Branch. This service involves obtaining copies of approximately 4,500 print and non-print materials annually from more than 500 publishers. These materials are then screened by staff of the Evaluation Section, and those selected as suitable for Western Australian schools are sent to individual reviewers forming a network in schools and institutions of higher education. The completed reviews are returned to the Evaluation Section, where they are edited and annotated. The reviews are published in three journals, which are disseminated to all public schools in Western Australia. Indicative reviews of basic, supplementary, non-print, reference and professional materials are published in *Resource Focus*, an irregular journal first published in 1990. *Resource Focus* was first used in 1994 to cover the eight learning areas of the Student Outcome Statements. In addition, indicative reviews of supplementary reading materials for secondary schools are published in two issues annually of *Fiction Focus*, a journal first published in 1987, whilst indicative reviews of supplementary, non-print, reference and professional materials for primary schools are published in one issue annually of *Primary Focus*. Between 1986 and 1992, indicative reviews of computer software were published in a fourth journal, *Software Focus*. Those materials, included in these journals, are also catalogued on cards and machine-readable records, which are then provided to schools in Western Australia. These records are also sent to the Curriculum Corporation for loading onto the SCIS database.

Although the Western Australia Department of Education does not recommend particular selection procedures, schools are expected to select the most appropriate materials offered through CMIS to meet the needs of their students. CMIS maintains a mobile display centre of curriculum materials relevant to *Primary Focus*. The display is available on request to each district education office, and travels throughout Western Australia between February and June of each year. The display centre was used by 400 teachers in 1994 to assist in selecting curriculum materials. Materials are purchased by each school from a grant provided by the state government specifically for this purpose. Primary schools may purchase materials listed in *Primary Focus* through a bulk purchasing system provided by a contract between the Western Australia Department of Education and a bookseller, who offers discounted rates. Initially, orders are sent to CMIS to facilitate the ordering of catalogued products, and then orders are filled by the bookseller. The bulk purchasing system was used by 280 primary schools in 1994 to purchase 20,500 materials.

The Secondary Education Authority, which accredits syllabuses in subject areas for the Certificate of Lower Secondary Education in grade 10 and the Certificate of Secondary Education in grades 11 and 12, convenes committees for each syllabus to develop courses and select curriculum materials. The Authority publishes syllabuses, including adopted texts in some syllabuses which teachers are required to use, lists of recommended texts in other syllabuses from which teachers are free to select materials, whilst in the remaining syllabuses teachers are free to select materials.

4.1.2.6 Tasmania

In 1962, the Curriculum Branch in the Tasmania Department of Education established a Materials Evaluation Unit, which appointed committees at both the primary and secondary levels to review curriculum materials, list adopted materials, and publish reviews in the *Tasmanian Education Gazette* and the *Tasmanian Journal of Education*. Dissemination of materials to teachers was also promoted through the establishment of a Curriculum Display Centre in 1963. In 1976, a quarterly journal, *Materials Review*, was instituted specifically to publish reviews of curriculum materials. In 1981, *Materials Review* was retitled *Tasmanian Resources Review*, and published as a tabloid, which was disseminated to all Tasmanian schools as an aid for selecting materials. This service involved the journal's editors obtaining copies of print materials from publishers, which were then screened each month by a committee of subject supervisors and curriculum specialists. Those materials, selected as suitable for Tasmanian schools, were sent to individual reviewers forming a network in schools. The completed reviews were returned to the Curriculum Branch, where they were edited and annotated. Indicative reviews of basic, supplementary, reference and professional materials were published in three issues annually of the *Tasmanian Resources Review*. Following review in the journal, materials were displayed for short periods in display centres established at the Curriculum and Library Services branches. This service led to a marked increase in reviews published in the journal, from 600 reviews in 1982 to 1,000 reviews in 1983. In 1985, the Curriculum Resources Section gained responsibility for the *Tasmanian Resources Review*. The publication of the tabloid was discontinued in 1986, when the Curriculum Resources Section began providing reviews of print materials, audiovisual materials and computer software on an electronic database, Tasmanian Resources Review, through TASNET, the Tasmania Department of Education's online system. This database, maintained by the Education Library, was officially launched in 1990.

In 1975, the Tasmania Department of Education introduced a Resource Management Program, which involved centrally based consultants responding to individual inquiries from schools by identifying factors affecting resource management in the particular school through consultations with teachers. Implementation of the Resource Management Program led the Tasmania Department of Education (1983) to publish a guide, which outlined the program as a sequence of three stages. First, the school's staff should meet to identify problems relating to the management of curriculum materials in the school, and elect a committee to implement the second stage. Second, the committee, which should include the school principal, should meet to research and document information in the form of a statement on existing resource management in the school, discuss and interpret the statement in terms of strengths and weaknesses in the acquisition, organisation and use of curriculum materials, and decide which aspects of resource management need to be improved. Third, the school principal should appoint an implementation committee, which should choose one project from the list of ten possible improvements identified at the previous stage, then consider suggested procedures for implementation, and decide on a suitable strategy. Selection of curriculum materials, which formed a key element in resource acquisition, was based on teachers advising a resource coordinator about new materials, reviewing the material, and referring the new material to a Resource Acquisition Committee, consisting of the principal, teacher-librarian, bursar, and subject or grade representatives, which screened the material to ensure that it matched curriculum needs.

In 1985, the Tasmania Department of Education published a policy for developing school library collections, which stated that each school should develop a procedure for selecting and evaluating new curriculum materials. Each school should form a Curriculum Resources Development Committee, which should meet three times a year to evaluate curricular needs for resources, evaluate existing resources, select and acquire new curriculum materials, and maintain resource collections.

The Schools Board of Tasmania, which accredits syllabuses in subject areas for the Tasmanian Certificate of Education in grades 9 to 12, convenes committees for each syllabus to develop courses and select curriculum materials. The Board publishes syllabuses for grades 9 and 10, which include lists of available texts from which teachers are free to select materials. For grades 11 and 12, some syllabuses include adopted texts which teachers are required to use, whilst other syllabuses list recommended texts from which teachers are free to select materials, and the remaining syllabuses list available texts from which teachers are free to select materials.

4.1.2.7 Australian Capital Territory

The Australian Capital Territory Department of Education and Training began developing curriculum frameworks for grades P to 12 in eight learning areas in 1988, following a five-year plan for curriculum review and renewal. In 1993, these frameworks were aligned with the national curriculum statements and profiles, and introduced into schools in 1994. These frameworks are broad curriculum guidelines for school communities to develop their own programs by involving the school community in specifying a statement of philosophy and goals, based on a format adopted from the system-wide curriculum frameworks. Curriculum materials should be selected, listed and regularly updated, once a school community has developed its own curriculum. Each school should undertake formative evaluation of its curriculum by reviewing knowledge and processes, the use of time, the appropriateness of strategies, resources and organisation, the learning environment, the teacher's role, the use of curriculum materials, equality of access, and the quality of outcomes.

The Australian Capital Territory Ministry for Health, Education and the Arts (1990) recommended that each school should develop a selection policy and procedure for its school library, which provides a statement of philosophy, indicates the scope and parameters of the collection, and specifies selection criteria.

The ACT Board of Senior Secondary Studies, which accredits courses developed by teachers in schools in subjects for the High School Record in grade 9, Year 10 Certificate in grade 10, and Year 12 Certificate in grades 11 and 12, convenes accreditation panels to approve programs developed by schools. The panels ascertain whether the texts listed in program documents are suitable for students in grades 11 and 12, and may recommend particular texts to program developers.

4.1.2.8 Northern Territory

In 1993, the Northern Territory Department of Education implemented the Common Curriculum Statement providing a framework of curriculum statements covering each learning area, from which each school develops its own programs. The Northern Territory Board of Studies, which approved the Common Curriculum Statement in 1992, appoints subject area and advisory committees to develop curriculum materials. Materials developed by these committees are adopted and published by the Northern Territory Board of Studies, and distributed to all schools. Each school, which selects curriculum materials to support its own programs for the transition grade to grade 10, may purchase materials from other sources. Those schools in Australian Aboriginal communities in the Northern Territory, which offer bilingual education programs, maintain literature production centres. Russo (1981) reported that these centres were first established in 1975 to produce curriculum materials to meet the linguistic needs of local Australian Aboriginal communities, following the failure of a pilot study to produce such materials centrally through the Northern Territory Department of Education. These centres, which employ Aboriginal story-tellers, writers and illustrators, develop and print a wide variety of materials ranging from traditional stories to texts for each learning area, and bilingual newspapers.

The Northern Territory Department of Education (1988) recommended that each school should develop a selection policy and procedure for its school library, which provides a statement of philosophy, indicates the scope and parameters of the collection, and specifies selection criteria.

The Northern Territory Board of Studies, which accredits courses in the key learning areas for the Junior Secondary Studies Certificate in grade 10, and the Senior Secondary Studies Certificate or the South Australian Certificate of Education (Northern Territory) in grades 11 and 12, convenes subcommittees for each key learning area to develop courses and select curriculum materials. The Board publishes syllabuses, including adopted texts in some syllabuses, which teachers are required to use, whilst in the other syllabuses teachers are free to select materials.

4.2 Controversy and Censorship

4.2.1 Historical Background

Although protests over controversial issues in curriculum materials used in Australian schools appear to be a recent and rare phenomenon, the unreported incidence of challenges to controversial topics is probably more numerous than often recognised. A key issue of controversy in the nineteenth century is recorded in one of the few reported cases. Austin (1963) reported that secularists lobbied the Victorian Minister for Education to replace the Irish National Readers in the mid-1870s. Minister Ramsay called a meeting of secondary school principals in July 1876, which adopted the Nelson Readers. However, the secularists were in a sufficiently strong position to censor the Nelson readers for all references to religious dogma, before a Victorian edition was published.

On the other hand, it seems that the most effective interest groups involved in contemporary incidents of controversy and censorship involving curriculum materials in Australia have drawn their inspiration and tactics from counterparts in the United States. Likewise, the issues targetted by such groups are similar to those featured in censorship cases in the United States. Consequently, the historical background to controversy and censorship of curriculum materials in Australia is treated by considering the more diverse motivations of various challenges opposing secular humanism in schools, and then the more specific controversy surrounding the issue of creationism.

4.2.2 Main Issues

4.2.2.1 Christian Fundamentalism versus Humanism

The only notable case in Australia, widely covered by the news media at the time, related to the censorship in Queensland in 1977 and 1978 of curriculum materials from the social studies programs, Man: A Course of Study (MACOS) and Social Education Materials Project (SEMP). This controversy has been reported and analysed extensively in educational literature (Smith and Knight, 1978; Duhs, 1979; Gowers and Scott, 1979; Smith and Knight, 1981).

The events leading to this controversy were set in motion as early as 1973, when the Queensland Department of Education trialled the MACOS materials in fifteen primary schools. Two censorship groups formed in 1972, the Society to Outlaw Pornography (STOP) and Committee Against Regressive Education (CARE) became influential at this time under the leadership of Rona Joyner. Following successes in removing a number of books from school libraries, these groups focused their attention on the MACOS materials. The catalyst for active protests over this issue was provided by the visit to Queensland in July 1977 of Norma Gabler, the textbook watcher from Texas. She was the guest speaker at functions held by the Festival of Light and the Conservative Club, and attended meetings with directors of the Queensland Department of Education. The outcome of this visit led to STOP and CARE mounting an intensive campaign against the MACOS materials during the last three months of 1977 by lobbying politicians and staging newsworthy events to provoke press releases. The news media gave considerable coverage to the MACOS issue by providing a forum for both censorship and anti-censorship protagonists. In contrast, the campaign by anti-censorship groups, such as the Queensland Council of State School Organisations and the Queensland Teachers Union, proved to be ineffective during this period. As a consequence, the Minister for Education announced in January 1978 that the MACOS materials would be removed from Queensland schools. In spite of more vehement protests from anti-censorship groups following this announcement, the use of SEMP materials in Queensland schools was also censored in February 1978.

The censorship of the SEMP materials led to widespread opposition from a range of groups, which criticised the basis for the decision to censor these materials. This controversy led to the Queensland Cabinet appointing a Select Committee in February 1978, chaired by Michael Ahern, the National Party whip, with four members drawn from the National, Liberal and Labor parties, to inquire into these events. It was assisted by a four-member advisory panel, consisting of representatives drawn from both censorship and anti-censorship groups, and supported by a secretariat. The Select Committee, however, investigated a wide range of matters affecting education in Queensland. These may be categorised under seven issues: the efficiency and effectiveness of secondary education; the emphasis to be placed on basic skills and other activities in primary education; the adequacy of technical and further education in meeting industry's needs; the role of the community in educational decision-making; the adequacy of social education programs; the need for new courses; and the introduction of an independent authority to investigate complaints from parents and community groups. The Select Committee received more than 4,000 written submissions, with 1,700 coming from STOP and CARE members, and 300 from members of the Queensland Teachers Union. From these submissions, 83 organisations and individuals were invited to present oral evidence during 17 days of hearings held in Brisbane, which were followed by visits to rural centres throughout Queensland. The Select Committee released reports in 1978 and 1979 examining six issues: the composition and functions of the Queensland Board of Senior Secondary School Studies; the aims of schooling and the future of social education; literacy and numeracy; human relationship courses; isolated children and isolated schools; and post-secondary education. In its final report released in 1980, the Select Committee recommended that censorship of the MACOS materials should be continued, but supported the outcome of a review of the SEMP materials conducted for the Queensland Department of Education by a five-member committee in January 1978, by referring the materials for further review to a ministerial committee.

Williamson (1981) contrasted the successful campaign by STOP and CARE in Queensland with a less effectual campaign mounted in New South Wales by a similar interest group, Parents' Responsibility for Better Education (Parent Probe), founded in 1975 by Shirley Hamilton. Parent Probe's protests against the MACOS materials, and a set of Australian materials, *People of the Western Desert*, began following a visit to Sydney by Norma Gabler, who provided anti-MACOS materials and condemned the program at press conferences, and on radio and television talk shows. The campaign was taken up by a newspaper, *Sydney Argus*, which published a series of articles in 1978 during the lead up to a state election calling on the Minister for Education to institute a public inquiry into education in New South Wales. Instead, the New South Wales Department of Education formed a Review Panel of Inquiry into Parent Probe's allegations, which had limited reference and was not open to public hearings. Anti-censorship groups were successful in silencing the campaign by the *Sunday Argus* by securing an Australian Press Council censure of the paper. Although the campaign by the *Sydney Argus* gained the support of the Shadow Minister for Education, the Minister for Education failed to be drawn by this publicity. The Labor government was returned at the election, and the censuring of the *Sydney Argus* severed Parent Probe's channel for publicity through the news media. The report of the Review Panel, released in December 1978, could find no case for withdrawing the MACOS materials. Although Shirley Hamilton produced a counter report critical of the findings of the Review Panel, Parent Probe was unsuccessful in lobbying the Minister for Education to convene a public inquiry. Williamson argued that STOP and CARE were more successful than Parent Probe because they presented a Christian fundamentalist ideology, used pro forma letters effectively, and gained political access by lobbying conservative politicians in the cabinet of the Queensland government. The politically conservative environment in Queensland, reflected by Premier Johannes Bjelke-Petersen's presiding over the censorship of the

MACOS and SEMP materials, was more receptive to the protesters' campaign.

4.2.2.2 Creationism versus Evolution

In 1975, members of the Institute of Creation Research, formed in 1972 from a schism within the Creation Science Research Center, based in San Diego, California, visited Australia. This led to the development of a creationist movement in Australia, which was formally established in 1980 as the Creation Science Foundation (CSF) in Brisbane. Within a few years, CSF published a creationist journal, *Creation: Ex Nihilo*, and circulated a newsletter, *Creation Science Prayer News*, to a mailing list of 12,000 people. It also maintained a collection of films, books and pamphlets promoting creationism, as well as promotional materials for Christian community schools. CSF used public speakers and lecturers to focus its efforts on Christian fundamentalist religious groups, schools, college and university undergraduates, and science teachers. Together with STOP and CARE, CSF began influencing the Queensland National Party government, particularly the Minister for Education and the Premier, to insert creationism as a theory of origins in the school curriculum. Knight (1986) reported that CSF attempted to assert a demand for the balanced treatment of creationism and evolution in 1981. The issue did not gain widespread attention until 1984, when the Minister for Education expressed personal support for balanced treatment by issuing advice to schools.

However, CSF concentrated its main efforts on Christian community schools, particularly those following the Accelerated Christian Education (ACE) curriculum. Formulated in Texas by Donald Howard in 1973, the ACE curriculum is based on programmed learning using a series of self-study booklets, known as Packets of Christian Education, which cover the basic subject areas. The method relies on rote learning, individual student learning in carrels, testing facts and not problem solving, censoring curriculum materials which do not depict Christian fundamentalist values, and administering a system of rigid discipline. The most contentious aspect of the ACE curriculum relates to the presentation of the origins of life from a creationist perspective, utilising the work of the Creation Research Society, and diminishing the theory of evolution on dogmatic grounds. Speck and Prideaux (1993) reported that the ACE curriculum was first used in Australia by a Christian fundamentalist school at Blackheath, New South Wales, in 1977. By 1983, 102 Christian community schools were using the ACE curriculum, but this number had fallen to 65 schools in 1988. The apparent decrease in the number of ACE schools during the late 1980s may be deceptive, because its proponents concentrated on developing home schooling following difficulties in registering schools using the ACE curriculum with state educational authorities.

4.2.3 Research Findings

Although little was known until recently about the extent of challenges to controversial curriculum materials used in Australian schools, evidence derived from a single survey suggests that such incidents are quite common. Williams and Dillon (1993) reported a survey conducted in 1991 of challenges experienced by an accidental sample of 200 teacher-librarians from all states and territories, to which 145 subjects representing 72.5 percent of the sample responded. The results indicated that 56.5 percent of the respondents reported challenges during the previous five years, and 72.7 percent reported that the incidence of challenges had remained constant over the previous five years. They also found that 51.7 percent of the respondents reported that their schools had written policies for dealing with challenges, of which 53.4 percent had been developed solely by the teacher-librarian, whilst 46.7 percent had been developed by the teacher-librarian together with other educators, and occasionally in consultation with lay people. From this group of respondents, 66.7 percent reported that the policy had been adopted by the school council, board, or other governing body. The respondents reported 105 challenges, of which 64.7 percent were directed towards fiction materials, and 26.6 percent were directed to non-fiction materials. The reasons for the challenges were diverse, but 66.7 percent were made on grounds of immorality, obscenity and profanity, whilst satanic influence accounted for 14.3 percent, and religious objection for 13.3 percent. Although parents were responsible for 49.5 percent of the challenges, 43.8 percent emanated from people employed in the schools. Challenges resulted in 66.7 percent of controversial materials being removed or restricted, whilst only 32.3 percent led to retention of materials in use. It was also found that application of written challenge procedures had no significant effect on the outcome of challenges. The respondents reported that the teacher-librarian, principal, teachers and parents were the groups most often involved in making decisions about controversial materials, but that the principal and teacher-librarian were most frequently responsible for the final decision.

4.2.4 Challenge Procedures in the States and Territories

Although the majority of subjects responding to the reported survey indicated that their schools had developed procedures for handling challenges to controversial materials, guidelines to assist schools to develop such procedures are only recommended in New South Wales, Queensland, South Australia, Australian Capital Territory, and Northern Territory. The features of such guidelines for developing procedures to handle challenges to controversial materials are now examined in greater detail.

4.2.4.1 New South Wales

The New South Wales Department of Education (1986) recommended that school principals should be responsible for developing a written policy for handling challenges to controversial materials held in school libraries by referring to two policy statements: *Sensitivity to Community Attitudes and Feelings*; and *Controversial Issues in Schools*. Principals are advised to develop written statements of policy and procedures, which clearly specify that the challenger should document the complaint, indicate the process for reviewing the complaint, identify the people responsible for the review, state the policy about use of the challenged material during the review, specify options for handling the challenged material following the outcome of the review, and state the procedure for informing the challenger about the challenge procedure and the final decision.

4.2.4.2 Queensland

The Queensland Department of Education (1991) recommended a procedure for dealing with challenges involving both informal handling and formal review. Once a complaint is lodged, the principal, teacher-librarian and teacher concerned should be informed. An attempt should be made to settle the complaint through discussion. If discussion fails, the challenger should be required to complete a form, intended to focus relevant issues relating to the complaint. The completed form should then be referred to a review committee for consideration. The challenger should be informed of the outcome of the committee's review through a discussion, at the challenger's request, or by formal notification by the principal. This procedure is viewed as likely to lead to four possible outcomes: the challenger withdraws the complaint; an alternative material is selected for the parent's child; the challenged material is provided through restricted access or removed from the school; or no resolution is achieved, in which case the challenger may take the complaint further. A record of the complaint, the procedure followed, and the outcome should be recorded.

The Queensland Department of Education (1995) published a revised policy, in conjunction with mandating selection policies for schools, recommending a particular procedure for dealing with challenges. Once a complaint is lodged, the principal, teacher-librarian and teacher concerned should be informed. The challenger should be required to complete a form, intended to focus relevant issues relating to the complaint. If the complaint is not settled through discussion, a review committee should be formed, consisting of a school administrator, resource specialist, appropriate curriculum coordinator, and lay people, to consider the challenge. Once the complaint has been considered, an opportunity for a hearing should be given to the challenger. This procedure is viewed as likely to lead to four possible outcomes: the challenger withdraws the complaint; the challenger's child is exempted from using the material; the challenged material is provided through restricted access or removed from the school; or no resolution is achieved, in which case the challenger may take the complaint to the regional executive director. In these cases, the regional executive director obtains advice from the school, and draws on other expertise within the region or from the central office to settle the challenge. If the regional executive director believes the challenge has developed wider implications, it may be referred to the Studies Management Forum.

4.2.4.3 South Australia

The South Australia Department of Education (1987) recommended the use of a procedure for dealing with challenges from parents and citizens about particular materials. A challenge should be referred to the school principal, who should outline the selection process, and explain to the challenger why the material was selected. If the issue cannot be resolved, the challenger should be invited to complete a written submission detailing the nature of the complaint. The principal should then exempt the parent's child from using the particular material by specifying an alternative material, which should be referred to the School Review Committee. Following the committee's recommendation about the alternative material's suitability, the principal should convey this outcome to the parent in writing. The action should be recorded, and the Area office informed about the complaint.

4.2.4.4 Australian Capital Territory

The Australian Capital Territory Ministry for Health, Education and the Arts (1990) recommended that school principals should be responsible for developing a written policy for handling challenges to controversial materials held in school libraries. The policy should clearly specify that the challenger documents the complaint, indicates the process for reviewing the complaint, identifies the people responsible for the review, states the policy about use of the challenged material during the review, specifies options for handling the challenged material following the outcome of the review, and states the procedure for informing the challenger about the challenge procedure and the final decision.

4.2.4.5 Northern Territory

The Northern Territory Department of Education (1988) recommended that school principals should be responsible for developing a written policy for handling challenges to controversial materials held in school libraries. The policy should clearly specify that the challenger documents the complaint, indicates the process for reviewing the complaint, identifies the people responsible for the review, states the policy about use of the challenged material during the review, specifies options for handling the challenged material following the outcome of the review, and states the procedure for informing the challenger about the challenge procedure and the final decision.

4.3 Conclusion

The historical background relating to the purchase, selection and distribution of curriculum materials within Australian educational systems appears to have been poorly documented. It has been conjectured that the shortage of textbooks and other materials during the nineteenth century had an important influence on the development of colonial educational systems. In spite of the critical importance of this factor for the operation of educational systems, there is no evidence to suggest that educational authorities sought to improve the supply of curriculum materials by designing better procedures for their purchase, selection and distribution. An explanation for this conclusion may be found in the general control of the curriculum gained through reliance on inspectorates and external examinations.

An examination of selection procedures used in more recent times by state and territory education agencies shows greater organisation of the decision-making process. It appears that certain features of centralised, statewide procedures for controlling the purchase, selection and distribution of curriculum materials were implemented during the 1960s in New South Wales, Victoria, Queensland, Western Australia and Tasmania. Although these state education agencies employed such features as statewide selection committees, display centres, review journals and state grants for schools to purchase materials, these elements were not usually integrated, since these activities were often performed independently by different groups, such as curriculum specialists or teacher-librarians. These centralised procedures, however, failed to develop the features of fully fledged statewide systems for controlling the purchase, selection and distribution of materials, because their role remained advisory whilst the authority for adoption of materials remained exclusively with schools. Recent education reforms and decentralisation of decision-making authority to the school level appears to have transferred the responsibility for selection of materials entirely to schools in each of these states, except for Queensland and Western Australia.

This situation contrasts markedly with the role exercised by accreditation agencies, which acquired the authority in most states and territories for adopting certain materials used in schools, particularly at the senior secondary level. The relative strength of authority gained by accreditation agencies may possibly be attributed to the historical reliance on external examinations, which have been retained at the senior secondary level in all states and territories as systems of internal assessment.

The implementation of guidelines and procedures for handling challenges to controversial materials appears to be a recent development in Australia. In Queensland and New South Wales, this development may be attributed to notable cases of controversy during the previous two decades, whilst the lack of guidelines for developing procedures in other states may be attributed to the lack of such cases. Generally, guidelines and procedures for handling challenges appear to be appropriate and consistent with codes of conduct recommended by professional associations. On the other hand, the recent appointment by the New South Wales Board of Studies of a reference group of nominees from various community organisations representing both conservative and liberal groups may not be a suitable forum for determining controversial issues of social content in reading texts for the secondary level. A significant implication, which may be drawn from the high frequency of challenges and high incidence of successful challenges, is that the procedures used to select materials may be ineffective.

In conclusion, the pattern of existing procedures for selecting curriculum materials in the states and territories does not show a high degree of integration. It is likely that an integrated national policy for selecting curriculum materials, necessary to support the nationally agreed curriculum in Australian schools, will arise only when educational authorities have gained a comprehensive perspective about the complex issues surrounding the selection of curriculum resources.

CHAPTER 5

A STUDY OF PRACTICES USED TO SELECT CURRICULUM MATERIALS IN AUSTRALIAN SCHOOLS

In Chapter 4, evidence has been presented showing divergences between the particular procedures used by state and territory departments of education and accreditation agencies in Australia for selecting curriculum materials. Since final responsibility for selection and adoption of curriculum materials lies with individual schools, an important aspect remains to present empirical evidence about practices applied in Australian schools. This chapter reports a study of the practices applied by groups of school administrators, teachers, and resource specialists to select curriculum materials in a nationwide sample of Australian schools.

5.1 Research Problem

5.1.1 Background of the Problem

From the study of the textbook in American schools, Elliott and Woodward (1990) drew five main conclusions: first, that commercially published textbooks form the main constituents of the curriculum in the core subject areas at the elementary and junior secondary levels; second, that the important decisions regarding the content and curriculum design of textbooks are made by publishers and selectors within a marketplace; third, that curriculum reforms this century have had neither a substantial nor a lasting effect on American public schools, and that textbooks have persisted as the main structures within school programs; fourth, that textbooks have been criticised recently for their lack of quality; and fifth, that many teachers in American schools would experience difficulty in maintaining quality of teaching and learning in the core subject areas without relying on textbooks.

In a review of reported research on selected aspects relating to curriculum materials in Australian education, Watt (1991) reported that important differences from the American context could be concluded from available research studies. First, commercially published textbooks appear to play a relatively less important role in the curriculum of Australian schools. Second, interactions within the Australian marketplace are not governed by rules set by legislatures and state education agencies, thereby leaving Australian selectors and users with less capacity to negotiate with publishers over the content and curriculum design of their products than their American counterparts. Third, curriculum reform projects have had a more substantial impact on Australian education, which includes an important contribution made by Australia's national curriculum agency to the production and implementation of curriculum materials. Fourth, similar flaws of quality are likely to prevail in curriculum materials used in Australian schools, although this cannot be confirmed because of the manifest lack of reported research into these aspects. Fifth, Australian teachers are probably as dependent as American teachers on the curriculum materials they use in classrooms, although research studies into their use in Australian schools have not focused on the issue of teacher dependence.

Elliott and Woodward predicted that curricula of the future will influence schooling and the professionalism of teachers positively by way of six prospective developments. First, curriculum development will be increasingly implemented at a local level. Second, teachers will be the main professional educators responsible for developing, implementing and assessing its effects. Third, the professional organisations to which teachers belong will be the main supports for local curriculum development and professional development of teachers. Fourth, the roles of school administrators will be modified. Fifth, new forms of curriculum materials will evolve in which the content is national, and will include inquiry-oriented guides for both students and teachers to understand the academic disciplines underlying school subjects, and handbooks to support the development of students' understanding of particular areas such as writing and problem-solving. Sixth, a wide range of curriculum resources will be used in the curriculum of the future, based on the new, computer-based technologies applied in education during the 1980s, in particular, the applications of 'desk-top' publishing facilities available through word processors and laser printers providing the scope for generating teacher-made curriculum materials, and computer networks and optical publishing products providing information databases for sharing a wide range of materials between schools, libraries and information centres.

Current national education reform efforts in the United States, United Kingdom and Australia anticipate some aspects of the curriculum of the future envisaged by Elliott and Woodward. Considerable, although varying, emphases are placed in these national reform efforts on generating reform at the local level through the school community by involving teachers, parents, and community members. Whilst imposing broad national requirements in curricula and assessment procedures, these national reform efforts accept that some degree of national planning in curriculum development is essential. Such planning includes the development of national curriculum frameworks and resources, the application of information technology for their dissemination, and the improvement of processes for selecting curriculum materials. An understanding of the interactions and relationships between these different factors is important to the success of implementing national curriculum reform efforts.

This study sought to investigate an important implication likely to arise from the implementation of the national curriculum framework in Australian schools, namely, the degree to which the practices applied by school administrators, teachers, and resource specialists in schools reflect sound decision-making in selecting and using curriculum materials of high quality. This problem area is impinged upon by four major issues: research on the use and curriculum role of curriculum materials; research on the sources of curriculum information; research on the selection of curriculum materials; and research on the use of electronic information systems in schools.

5.1.1.1 Studies on the Use and Curriculum Role of Curriculum Materials

The purpose of reviewing research literature on the use and curriculum role of curriculum materials was to identify relevant concepts and data relating to teachers' dependence on curriculum materials, and their preferences for particular types of curriculum materials. The reviews of the following studies, which cover significant research reported in this area over an extended period of time, clarified the human factors impinging on teachers' patterns of use of curriculum materials. Research studies, investigating the use of curriculum materials, have been referred to in Chapter 1 in relation to establishing the importance of textbooks and other materials for teaching and learning. Further consideration of these studies in this chapter is confined to elaborating the findings of major studies, which have been directed to investigating the dependence of teachers and students on curriculum materials.

The first major study in the United States was reported by the Educational Products Information Exchange Institute (1977). A nationally stratified sample of more than 12,000 teachers was surveyed during 1974 and 1975 to collect baseline data, relating to eight research questions: identification of particular materials most frequently used in schools; ascertainment of the proportion of time spent on most frequently used materials; identification of the curriculum designs and personal value systems inherent in most frequently used materials; determination of the adequacy of most frequently used materials in meeting the needs of specific learning environments; specification of the characteristics of materials that meet these needs best; determination of the nature of materials that perform well, irrespective of variations in teacher experience and attitudes; demonstration of the relationship between teacher selection of materials and student learning; and identification of whether participants in the educational process were aware of the value systems in most frequently used materials. The findings of this study, known as the National Survey and Assessment of Instructional Materials (NSAIM), indicated that 25 to 30 percent of available materials were used extensively, that teachers on average spent 89 percent of class time using curriculum materials, that the majority of most frequently used materials showed similar curriculum designs and value systems, that most teachers believed most frequently used materials met the needs of specific learning environments, that there was a strong relationship between teacher experience and teacher perception of the performance of materials but a weak relationship between teacher attitudes and teacher perception of the performance of materials, that there was no relationship between student learning and teacher participation in selection processes, and that respondents were not aware of the value systems inherent in materials.

In a second study conducted for the National Institute of Education, Educational Products Information Exchange Institute (1980a) found that curriculum materials used in classrooms did not match learners' needs, contrary to the assertions of administrators and teachers. The findings of this survey, administered in a number of schools in both affluent and economically depressed communities, pointed to most students from all socioeconomic backgrounds knowing a considerable proportion of the subject matter of curriculum materials before their use and to few students making substantial gains in achievement tests administered after the use of the materials. This study was later cited by the National Commission on Excellence in Education (1983) to support the contention that many American students found the subject matter of many materials to be too easy, because of the practice of publishers in 'writing down' textbooks to ever-lower reading levels.

Research into the use of curriculum materials in Australian schools was first reported during the 1970s in relation to the Australian Science Education Project (ASEP), the Social Education Materials Project (SEMP) and the Language Development Project (LDP). A number of studies, conducted in relation to these projects, referred to three aspects: the processes used to develop, disseminate and diffuse curriculum materials; providing content analyses of curriculum materials; or surveying the subsequent use of these products in schools. The focus on identifying these patterns came to dominate the rationales and designs applied in subsequent research studies into the role of curriculum materials. Attention was not given, however, to determining the extent to which groups of teachers depend on, use, or are independent of curriculum materials.

Recent research into the use of curriculum materials has only been reported in seven large-scale studies. Anderson (1981) reported a survey in New South Wales, Victoria, Queensland and South Australia on the attitudes of teachers and consultants concerning the value and appropriateness of three materials for English as a second language, developed by the Language Teaching Branch of the Commonwealth Department of Education. The findings indicated that the materials were widely used and valued by teachers. Using a three-stage research design of case studies and representative interviews as a means to formulate items for a final questionnaire, which was used to survey samples of teachers and principals in Western Australian primary schools on their perceptions of the processes used to disseminate, select and use curriculum materials for mathematics and social studies, Marsh et al. (1981) identified problems reflecting inadequacies in prevailing dissemination and selection practices. These included lack of time to select curriculum materials, not knowing which curriculum materials were available, lack of access to curriculum materials, the availability of only limited amounts to fund purchases, and being required to order materials without preliminary inspections. Although only one-fifth of principals had sole responsibility for organising curriculum materials in their schools, principals often formed part of a staff selection committee, particularly in relation to mathematics materials. On the other hand, both teacher librarians and library aides took a major role in assisting teachers to select social studies materials. Furthermore, approximately one-third of teachers were involved in making decisions about selecting curriculum materials used in their classrooms. Cohen and Harrison (1982) reported a survey of 98 schools involving 586 respondents from all states and territories on aspects of decision-making in aspects of the school curriculum. The findings indicated that almost two-thirds of respondents used textbooks frequently, and two-thirds stated that new textbooks had been implemented within the previous three years. Respondents perceived decision-making in selecting curriculum materials was based in different authorities: almost three-fifths indicated individual teachers were responsible; one-quarter indicated all teachers in subject departments were responsible; and a little more than one-tenth indicated that subject coordinators were responsible. Two-thirds of subject coordinators and teachers, but less than one-tenth of principals, reported high levels of participation in selecting curriculum materials. Almost two-fifths of principals, however, reported high levels of participation in purchasing curriculum materials. Nearly one-third of respondents reported a high degree of satisfaction concerning selections of curriculum materials. One-tenth of respondents reported that the availability of materials influenced decision-making about curriculum matters substantially.

Brown et al. (1982) reported a study in which six colleges of technical and further education, two each in South Australia, Tasmania and Victoria, were surveyed to identify the processes whereby curriculum materials were provided by centralised and college production agencies, the processes whereby curriculum materials were organised and managed within college libraries and resource centres, the suitability of these facilities, and the extent of their use by teachers and students. The findings indicated that respondents viewed the provision, management and use of curriculum materials as a low priority. Marsh and Kennedy (1989) reported a study in which samples of teachers and students in each Australian state and territory were surveyed on their perceptions about the use of two curriculum materials developed by the Commonwealth Department of Employment, Education and Training for programs in English as a second language. The findings indicated that moderate use of the materials was being made in the schools surveyed. The Tasmania Department of Education (1990) reported a study during 1985 and 1986 into the processes involved in disseminating and organising curriculum materials in a sample of 17 schools and 25 resource centres in Tasmania. The findings identified that dissemination of curriculum materials was most effective where group decision-making occurred, and the best organisation of collections of curriculum materials occurred through use of a computer-based management system. Reporting a study investigating the funding, selection and use of textbooks in a sample of 66 schools in New South Wales, Laws and Horsley (1992) found that both public and private schools were provided with a government allowance to purchase textbooks, selection procedures varied widely, and teachers used textbooks for more than 50 percent of class time in all core subjects.

5.1.1.2 Studies on the Sources of Information about Curriculum Materials

The purpose of reviewing research literature on sources of information about curriculum materials was to identify relevant concepts and data relating to teachers' preferences for personal and non-personal sources. The reviews of the following studies, which represent the most significant research reported in this area, clarified which human and social factors interacted in teachers' choices for sources of information.

Rittenhouse (1971) reported a survey of superintendents, curriculum consultants, principals and teachers in 65 school districts in the San Francisco Bay Area, California, about their perceptions of sources of information for educational planning and decision-making, modes of communication, problems in interpretation and use of information, participation in decision-making, incidence of breakdown in planning caused by inadequate information, relative importance of decisions, deterrents to effective decision-making, information needs of particular planning areas, difficulty in obtaining information, and internal and external sources of information. The findings identified that the most frequently used information sources were colleagues, school administrators, contacts at professional meetings, superintendents, and curriculum specialists. Communication modes tended to be personal, although texts and curriculum materials from outside sources formed important sources. Programs in other school districts formed the most frequently used external source of information.

Hounsell et al. (1979) reported a survey of 695 teachers in Cumbria, Lancashire, Manchester and Liverpool in England on their information needs, their uses of educational information, and ways information could be disseminated more effectively. The findings identified that the subjects relied upon both personal and non-personal sources of information; 57 percent of subjects used books and reports frequently, and 51 percent of subjects used teaching colleagues frequently. Clarification from the interviews indicated that both personal and non-personal sources, which had to be sought from outside the school, were seldomly used. This picture was verified by the finding that most subjects found personal accounts by teachers to be more useful than either descriptive accounts or research findings. In a two-part investigation of how teachers perceive the curriculum, Doherty and Travers (1984) surveyed a sample of 196 teachers in and around the city of Birmingham, England, on their perceptions of the value of 30 varied potential influences on the curriculum, finding from a factor analysis of the ratings that the respondents regarded as the most important eleven external professional influences: national education associations; local colleges and universities; national reports; professional journals; local teachers' centres; in-service training programs; contacts with other schools; educational researchers; textbook publishers; local educational authorities' advisory personnel; and Her Majesty's Inspectorate.

Jeffery (1984) reported a survey of a sample of Australian primary and secondary teachers on their perceptions of the use and value of 30 sources of curriculum information, finding that the respondents used and valued informal personal contacts, such as other teachers' suggestions, observations of other teachers, school library consultations, and subject heads' suggestions, more than non-personal sources. Broadbent and Kemp (1983) concluded from an analysis of the findings from a portion of this research literature that educators are uncertain where to begin searching and that their searches are often disorganised. Important sources for locating information include colleagues, persons in other areas, journal articles, and conference papers. There is an interest in gaining information about educational practices in other schools and other systems, with a predilection for information based upon school experience rather than academic research. The main reason for requesting information involves obtaining assistance with an immediate problem.

5.1.1.3 Studies on the Selection of Curriculum Materials

The purpose of reviewing research literature on the selection of curriculum materials was to identify relevant concepts and data relating to the decision-making process of selection. The reviews of the following studies clarified the procedures involved in the decision-making process of selection, as well as the human and social factors interacting in decision-making about selections of curriculum materials. This review of reported research studies does not include studies examining particular selection procedures used by state education agencies in the United States, which are reported in Chapter 6.

The extensive quantity of reported research in the United States on the selection of curriculum materials has been undertaken in response to a concern to identify a valid textbook selection process, an issue highlighted during the excellence debate of the 1980s. This research was directed towards three main issues. First, some researchers provided evidence recommending that particular steps are used for selecting textbooks. DeRose and Whittle (1976) reported the use of a collaborative decision-making process between a steering committee of subject specialists from outside the school district and a districtwide teachers' committee. Winograd and Osborn (1985) reported the use of a Textbook Selection Criteria Committee for Reading to assist the State Textbook Commission in the statewide selection and adoption procedure applied in Kentucky. Other researchers recommended the use of inservice training materials to improve the selection process. Osborn and Stein (1985) described the development of single topic pamphlets to assist textbook selection committees. Dole et al. (1987) reported on the piloting of training materials by four committees involved in the selection of reading materials. More commonly, however, research investigated the use of evaluative techniques for selecting curriculum materials. Among numerous examples, Connie Muther & Associates, an agency providing a training program for selection committees in local school districts, developed three evaluative techniques: topic comparison, or story-sort comparison in the case of reading materials (Muther, 1987a); vertical trace (Muther, 1984; Muther, 1985a; Muther, 1987b); and horizontal trace (Muther, 1988).

Second, researchers have investigated the characteristics of decision-making groups and processes operating within textbook adoption committees. This body of research identified that professional groups, teachers, administrators and subject specialists each play crucial roles. Finley (1979) defined the roles of administrators and teachers in the decision-making process for selecting materials in a single school district. Courtland et al. (1983) documented the process and perceptions of participants involved in decision-making during the statewide selection and adoption procedure used in Indiana, finding that most reviewers believed that direction and time to conduct the process were inadequate, and that evaluations of materials were based on global impressions rather than specific strengths and weaknesses. Powell (1985) reported the results of a study into the selection procedure used by two local school districts in Indiana, finding that reviewers were persuaded by the physical appearance of the materials, data from pilot trials, local philosophies pertaining to subject pedagogies, the influence of publishers, and political and interpersonal relationships with other committee members. Fitzgibbons (1985) provided evidence that members of professional associations should share expertise with teachers on selection committees. Clary and Smith (1986) examined the lack of uniformity of the decision-making process among committees in different states. Miller (1986) reported that teachers participating in a study of textbook adoption tended to use their observations in a predictable decision-making process. Examining the relationships and influences of social and professional interest groups participating on the State Textbook Committee in Texas, Wong (1991) argued that the input of special interest groups had a limited impact on committee members, whose decisions reflected the dominance of selection criteria. From a survey of 45 members of the State Textbook Committee in Texas, Marshall (1991) found that 'organisation and presentation of content', 'adherence to the proclamation' (policy guidelines developed by curriculum specialists in the Texas Education Agency for selecting and adopting textbooks), and 'pedagogical strength' were more important selection criteria than 'professional reports, evaluations, journal reviews', 'suitability to specific students, locations', and 'effectiveness based on student achievement'.

Third, a few research studies have investigated issues related to improving the processes for selecting textbooks. Guenther and Hansen (1977) reported a study, which investigated the selection procedures of school district selection committees in mid-western states, finding that the factors of the adoption rate and general satisfaction were often overlooked. Exline (1984) reported a study in which a survey of members of the Council of State Science Supervisors indicated that they desired publishers to produce field-tested and inquiry-based curriculum materials.

The paucity of reported research studies on the selection of curriculum materials in Australia is probably the consequence of the lack of formally mandated procedures for selecting curriculum materials used in Australian schools. In reporting the findings of a survey focusing on the attitudes of a sample of 22 primary teachers in Queensland towards consulting various groups in the selection of reading materials and on the appropriateness of applying particular selection criteria, Brimble (1981) found that the subjects held classroom teachers to be most important in selection decisions and that vocabulary load, range of interests and readability levels were the most important criteria for selections. In reporting a study of the attitudes and roles of a sample of principals in Western Australian primary schools on the dissemination and selection of curriculum materials for social studies and mathematics, Marsh (1983b) found that principals take a major role in the selection of curriculum materials. Bunbury et al. (1984) reported a survey of a sample of 492 teachers on their perceptions of decision-making authority in determining the content of language arts programs, and the balance between individual and group involvement in selecting supplemental reading materials, finding that the roles of groups increased whilst the roles of individuals decreased in higher grades. In reporting a study in which 140 science teachers in 80 high schools in Western Australia were surveyed on their use of professional materials for classroom preparation, the textbooks they selected, and the criteria they used for selection, Giddings (1988) found that teachers used textbooks as a principal vehicle through which to build teaching strategies, that they failed to discriminate in their textbook selections, and that they wanted the responsibility for selecting their own textbooks. In the only study of the decision-making procedures for selecting curriculum materials in Australian schools, Fincher (1982) found that only 21 of 69 school libraries in Victoria used published selection policies.

5.1.1.4 Studies on the Use of Electronic Information Systems in Schools

The purpose of reviewing research literature on the use of electronic information systems in schools was to identify data relating to teachers' patterns of using these systems as a tool for selecting curriculum materials. The studies reviewed below present data to substantiate the patterns of use among unrepresentative groups of school personnel, but should be questioned because of limited external validity. The probable lack in generalisability of these studies can be attributed to the recent application of electronic information systems in school settings. Electronic information systems, in either the forms of online information retrieval or videotex services, did not become widely available in schools until after the widespread use of microcomputers during the 1980s. The availability of electronic databases on optical publishing technology, such as CD-ROMs, is more recent, since their initial marketing occurred in 1985.

Aversa et al. (1989) reported a survey of school personnel on practices in school libraries and media centres concerning the use of online services, policies regarding on-line services, and resources used to provide on-line services to schools. The results indicated that on-line searching programs were most frequently found in high schools with fewer programs in middle schools and rarely in elementary schools. A similar range of databases was accessed by school library and media centre specialists within the sample of schools, with over 50 percent accessing those of DIALOG Information Services, 40 percent accessing those of BRS Information Technologies, and 20 percent accessing H.W. Wilson Company's WILSONLINE. A ranking of databases accessed indicated the following pattern of use from most frequent to least frequent: Magazine Index provided by Information Access Company; the ERIC database provided by the United States Department of Education; UPI News provided by United Press International; PsycINFO provided by the American Psychological Association; Abstracts 400; Dow Jones News Service; Books in Print provided by R.R. Bowker; BIOSIS; Readers Guide provided by H.W. Wilson Company; MEDLINE provided by the National Library of Medicine, MATHSCI, and BiogInd. Lathrop (1989) reported a survey of 73 secondary school librarians in 19 states on issues addressing curriculum objectives, student and staff training, curriculum uses, database selection, funding, and equipment relating to on-line search programs. The results indicated that the objectives of programs were classified at the levels of awareness, skills or research tool, that most training provided to students was at the awareness level, that the number of independent student searches averaged 70 per year, and teachers in 65 schools were involved in on-line searching. Magazine Index, listed by 55 respondents, and the ERIC database, cited by 41 respondents, were the most frequently used of 91 databases accessed. In addition, 11 schools in the survey reported the use of one or more databases on CD-ROM. The respondents indicated that the major costs incurred were for purchasing hardware, and maintaining the program, which increased markedly in cost from awareness, through skills to research tool programs.

Johnson and Sharp (1987) reported a two-stage study of the use of electronic information systems in Australian schools by analysing the content of promotional literature and documents, and collecting data from teachers, principals, teacher-librarians and students. The authors recommended from the findings of the study that the services of ASCIS, bulletin board systems and commercial sponsorships should be extended. Clyde and Kirk (1989) reported a survey of users of electronic information systems, identified in twenty schools in New South Wales, Queensland, South Australia and Western Australia, on the extent, types of services, purposes and curriculum areas in which electronic information systems were being used. The findings indicated that most schools were using more than one service with the number varying from one to five. A ranking of services indicated the following pattern of use from most to least frequent: Telstra's public videotex service, Viatel; the electronic newspaper service, PressCom, of the *Adelaide Advertiser*; the Keylink electronic mail service; the ASCIS online bibliographic database; the electronic newspaper service, the Queensland Newspapers Information Service (QNIS); and the commercial rural videotex service, Elderlink. In fourteen schools, teachers were able to do their own searching for classroom preparation or professional development, whilst students were able to do their own searching in nine schools. Electronic information systems were being used in schools for both group and individual uses within a wide range of curriculum areas, including sciences, language arts, computer studies, and business studies.

5.1.2 Statement of the Problem

The intent of the project was to identify the focus for curriculum change within the agenda of national curriculum reform in Australia. It was identified that the focus placed on nationally consistent approaches to the curriculum, as part of these reforms, was generally expressed through the development of national curriculum frameworks. There was little evidence, however, that curriculum reforms have linked national curriculum frameworks with decision-making processes for selecting curriculum materials. This study was intended to collect data about various aspects relating to existing procedures to select curriculum materials in Australian schools. It is anticipated that the data would form input for recommendations that support the implementation of selection procedures in Australian schools. The improvement in the decision-making process for selecting curriculum materials, achieved through implementation of these procedures, is likely to be congruent with the rationale for furthering national curriculum collaboration in Australia by providing a means for sharing curriculum resources more effectively.

Therefore, the present study formed a needs assessment of school personnel, who are likely to be most affected by the prospective recommendations. It sought to investigate the practices used by school administrators, classroom teachers and resource specialists, when using curriculum materials, seeking information about curriculum materials, selecting curriculum materials, accessing electronic information services, and preferring particular forms of information about curriculum resources.

5.1.3 Hypothesis

The study examined the hypothesis that there were group differences between the subjects' demographic characteristics and various aspects relating to curriculum materials. The study tested six research questions related to this general hypothesis. First, the time the subjects gave to using curriculum materials during teaching in their classrooms was expected to be generally high, but would vary in emphases on different media. Second, the subjects were expected to use both personal and non-personal sources of information about curriculum materials, although they were expected to rely on sources within their schools rather than external sources. Third, the prevailing procedures applied in the subjects' schools were expected to influence the decision-making process they used for selecting curriculum materials, and their perceptions about improving these procedures. Fourth, the subjects' patterns of accessing available services to obtain information about curriculum materials were expected to be influenced by practical constraints inhibiting their use of these services. Fifth, the subjects' perceptions concerning their potential use of a prospective information service were expected to relate to the value and quality of the information, the facilities provided by the information service, and the format in which the information service is delivered. Sixth, the subjects' preferences for choosing between different approaches for providing information about curriculum materials were expected to relate to their suitability for selecting materials.

5.2 Results

5.2.1 Use of Curriculum Materials

First, the study sought to identify the preferences of the subjects for using curriculum materials of different media in their classrooms or school libraries by determining the time spent on each during teaching. It was expected that the time given to using curriculum materials during teaching would be generally high, but that different groups would prefer particular media. The respondents indicated that a high proportion of total time was devoted to using print and non-print materials, as shown in Table 2. Highest proportions of time were given to using print materials, particularly teacher-developed materials, supplementary materials, and textbooks. All respondents indicated they used teacher-developed materials, whilst the greatest percentage of the total sample used supplementary materials (88.8%), and textbooks (86.8%). Fewer respondents, however, used kit materials and non-commercial print materials for less time. Subjects also reported lower use of non-print materials, with the exception of computer software programs (79.7%). A small proportion of the sample mentioned using other materials: 4 resource specialists reported using newspapers, magazines, charts and realia; 2 resource specialists and 1 principal reported using CD-ROMs; 2 resource specialists reported using on-line databases; and 1 teacher each reported using materials for kinaesthetic learners, manipulative materials, and student-produced materials.

TABLE 2

DISTRIBUTION OF RESPONDENTS' USE OF CURRICULUM MATERIALS BY MEDIUM BY TEACHING TIME

Medium	For more than 75% of teaching time	For 50% to 75% of teaching time	For 25% to 50% of teaching time	For less than 25% of teaching time	Never	No response	Total
- Textbooks	17 (8.6%)	34 (17.3%)	38 (19.3%)	82 (41.6%)	17 (8.69%)	9 (4.6%)	197
- Supplementary materials	18 (9.1%)	37 (18.8%)	49 (24.9%)	71 (36.0%)	11 (5.6%)	11 (5.6%)	197
- Kits	3 (1.5%)	14 (7.1%)	36 (18.3%)	116 (58.9%)	17 (8.6%)	11 (5.6%)	197

TABLE 2 (continued)

Medium	For more than 75% of teaching time	For 50% to 75% of teaching time	For 25% to 50% of teaching time	For less than 25% of teaching time	Never	No response	Total
- Non-commercial materials	1 (0.5%)	14 (7.1%)	32 (16.2%)	125 (63.5%)	13 (6.6%)	12 (6.1%)	197
- Teacher-developed materials	24 (12.2%)	52 (26.4%)	62 (31.5%)	52 (26.4%)	0 (0.0%)	7 (3.6%)	197
- Films	0 (0.0%)	1 (0.5%)	22 (11.2%)	156 (79.2%)	11 (5.6%)	7 (3.6%)	197
- Audio-cassettes	0 (0.0%)	4 (2.0%)	18 (9.1%)	127 (64.5%)	40 (20.3%)	8 (4.1%)	197
- Videos	1 (0.5%)	4 (2.0%0	19 (9.6%)	155 (78.7%)	9 (4.6%)	9 (4.6%)	197
- Multi-media materials	2 (1.0%)	11 (5.6%)	25 (12.7%)	120 (60.9%)	31 (15.7%)	8 (4.1%)	197
- Computer programs	5 (2.5%)	12 (6.1%)	23 (11.7%)	117 (59.4%)	31 (15.7%)	9 (4.6%)	197

Table 3 reports the means for independent variables and each medium used in unpaired two group t-test analyses and one factor analyses of variance.

TABLE 3

MEANS OF DEMOGRAPHIC FACTORS FOR RESPONDENTS IN EACH MEDIUM OF CURRICULUM MATERIAL

Variable	Group	Medium									
		1	2	3	4	5	6	7	8	9	10
Gender	Female	1.595	2.052	1.298	1.298	2.339	1.051	0.957	1.127	1.179	1.214
	Male	1.986	1.634	1.306	1.225	2.111	1.097	0.875	1.086	1.014	1.085
Age	39 younger	1.729	1.75	1.294	1.206	2.314	1.043	0.843	1.114	1.086	1.143
	40 & older	1.752	1.974	1.308	1.31	2.218	1.084	0.983	1.103	1.127	1.179
Role	Admin.	2.056	1.786	1.275	1.397	2.408	1.141	1.014	1.13	1.157	1.188
	Teachers	1.681	1.681	1.257	1.171	2.375	1.028	0.861	1.014	0.986	1.083
	Resource	1.356	2.362	1.404	1.234	1.83	1.021	0.894	1.234	1.255	1.255
Teach-ers	29 & less	1.408	2.039	1.324	1.412	2.476	1.029	1.078	1.039	1.155	1.233
	30 & more	2.153	1.711	1.274	1.096	1.989	1.115	0.744	1.2	1.07	1.082
Pupils	499 & less	1.522	1.989	1.213	1.398	2.444	1.022	1.056	1.044	1.144	1.244
	500 & more	1.949	1.802	1.381	1.155	2.08	1.11	0.808	1.173	1.091	1.092

TABLE 3 (continued)

Variable Group		Medium									
		1	2	3	4	5	6	7	8	9	10
School	Primary	1.427	2.147	1.412	1.43	2.447	1.029	1.126	1.029	1.194	1.32
	High	2.246	1.594	1.203	1.109	1.939	1.121	0.692	1.234	1.077	1.094
	Combined	1.75	1.55	1.05	1	2.286	1.095	0.667	1.143	0.857	0.619
Sector	Public	1.742	1.969	1.405	1.372	2.233	1.038	0.947	1.083	1.12	1.233
	Private	1.75	1.709	1.055	1.036	2.298	1.14	0.875	1.179	1.107	1
Community	Urban	1.789	1.834	1.225	1.215	2.169	1.065	0.928	1.118	1.105	1.138
	Rural	1.556	2.143	1.629	1.5	2.611	1.083	0.917	1.086	1.167	1.278

Key: 1 = commercially available textbooks; 2 = supplemental reading materials; 3 = print-based kit materials; 4 = non-commercial print materials published by educational agencies; 5 = teacher-developed materials; 6 = slides, filmstrips, films, and television programs; 7 = audiocassettes, gramophone records, and compact disks; 8 = videos; 9 = multi-media materials; and 10 = computer software programs.

Unpaired two group t-test analyses were performed separately for two groups within the demographic factors of gender, age, numbers of full-time teachers, numbers of pupils, sector, and type of community. One factor analyses of variance were performed separately for three groups within the demographic factors of role, and type of school. The statistics, summarised in Table 4, indicated that significant differences existed between the use of particular media and the independent variables of gender, role, numbers of full-time teachers, numbers of pupils, type of school, sector, and type of community.

Significant differences were found between administrators and teachers on their use of textbooks (Fisher .365, $p < 0.05$), as well as between administrators and resource specialists on their use of textbooks (Fisher .415, $p < 0.05$), supplemental reading materials (Fisher .396, $p < 0.05$), and teacher-developed materials (Fisher .361, $p < 0.05$), and also between teachers and resource specialists on their use of supplemental reading materials (Fisher .398, $p < 0.05$), and teacher-developed materials (Fisher .36, $p < 0.05$). Significant differences were found between respondents from primary and high schools on their use of textbooks (Fisher .335, $p < 0.05$), supplemental reading materials (Fisher .335, $p < 0.05$), non-commercial print materials (Fisher .223, $p < 0.05$), teacher-developed materials (Fisher .303, $p < 0.05$), audiocassettes, gramophone records, and compact disks (Fisher .183, $p < 0.05$), and videos (Fisher .162, $p < 0.05$). Similarly, significant differences were found between respondents from primary schools and schools with combined primary and secondary levels on their use of supplemental reading materials (Fisher .513, $p < 0.05$), non-commercial print materials (Fisher .334, $p < 0.05$), audiocassettes, gramophone records, and compact disks (Fisher .277, $p < 0.05$), and computer software programs (Fisher .4, $p < 0.05$), as well as between respondents from high schools and schools with combined primary and secondary levels on their use of computer software programs (Fisher .42, $p < 0.05$).

TABLE 4

SUMMARY OF T-TEST ANALYSES AND ONE FACTOR ANALYSES OF VARIANCE FOR DEMOGRAPHIC FACTORS IN EACH MEDIUM OF CURRICULUM MATERIAL

Independent Variable		Medium									
		1	2	3	4	5	6	7	8	9	10
Gender	t-value	-2.33	2.569	-0.06	0.665	1.534	-0.709	0.881	0.526	1.415	0.986
	prob.	.0209*	.011*	.9519	.507	.1268	.4795	.3794	.5993	.1588	.3256
Age	t-value	-0.137	-1.343	-0.11	-0.942	0.635	-0.623	-1.502	0.149	-0.35	-0.277
	prob.	.8912	.181	.9122	.3474	.526	.5342	.1349	.8814	.727	.7822
Role	F ratio	5.739	6.27	0.526	1.768	5.93	1.569	1.159	2.661	1.845	0.591
	prob.	.0038**	.0023**	.5918	.1736	.0032**	.2111	.3161	.0725	.1609	.5546
Teachers	t-value	-4.742	2.048	0.42	3.01	3.452	-1.351	3.793	-2.133	0.747	1.182
	prob.	.0001**	.042*	.6753	.003**	.0007**	.1782	.0002**	.0342*	.4562	.2389
Pupils	t-value	-2.622	1.164	-1.43	2.307	2.552	-1.385	2.776	-1.707	0.468	1.201
	prob.	.0095**	.246	.1544	.0222*	.0115*	.1676	.0061**	.0896	.6403	.2311
School	F ratio	11.607	6.478	2.464	5.758	5.465	0.936	13.237	3.184	1.753	6.318
	prob.	.0001**	.0019**	.0879	.0038**	.0049**	.3938	.0001**	.0437*	.1761	.0022**
Sector	t-value	-0.042	1.485	2.763	2.963	-0.412	-1.49	0.728	-1.148	0.105	1.677
	prob.	.9667	.1393	.0063**	.0034**	.6809	.138	.4673	.2523	.9164	.0952
Community	t-value	1.115	-1.506	-2.726	-2.142	-2.427	-0.227	0.099	0.327	-0.427	-0.864
	prob.	.2662	.1337	.007**	.0336*	.0162*	.8208	.9214	.7443	.67	.3886

Key A: 1 = commercially available textbooks; 2 = supplemental reading materials; 3 = print-based kit materials; 4 = non-commercial print materials published by educational agencies; 5 = teacher-developed materials; 6 = slides, filmstrips, films, and television programs; 7 = audiocassettes, gramophone records, and compact disks; 8 = videos; 9 = multi-media materials; and 10 = computer software programs.

Key B: * $p < 0.05$; ** $p < 0.01$

An open-ended item enabled respondents to list selection criteria they perceived explained their preferences for using particular curriculum materials. The most frequent responses were availability cited by 59 respondents (29.9%), relevance or suitability to the curriculum, subject area, objectives, content and teaching-learning method indicated by 56 respondents (28.4%), and students' needs, abilities and levels listed by 51 respondents (25.9%). The respondents indicated less frequently twelve other criteria: 34 respondents (17.3%) indicated that particular media were either suitable or unsuitable for certain subjects; 23 respondents (11.7%) listed ease of use; 19 respondents (9.6%) listed time constraints for accessing, preparing and conveying materials; 18 respondents (9.1%) listed cost constraints; 14 respondents (7.1%) listed lack of accessibility to equipment for using audio-visual or computer-based materials; 14 respondents (7.1%) listed suitability for a variety of subjects or activities; 13 respondents (6.6%) listed physical design and presentation; 10 respondents (5.1%) listed currency; 9 respondents (4.6%) listed interest and appeal to students; 7 respondents (3.6%) listed educational quality; 5 respondents (2.5%) listed previous use or recommendation; 3 respondents (1.5%) listed teaching experience; and 3 respondents (1.5%) listed the sequence or complexity of content as important factors. Twenty-six respondents (13.2%) listed other criteria, which constituted a miscellaneous group. The criteria were classified into two main categories: education oriented criteria; and non-education oriented criteria. It was found that 188 responses (51.6%) were related to education oriented criteria, whilst non-education oriented criteria accounted for 176 responses (48.4%).

5.2.2 Sources of Information about Curriculum Materials

Second, the study sought to identify the preferences of the subjects for choosing sources of information about curriculum materials. They were expected to use both personal and non-personal sources of curriculum information, although they were expected to rely on sources within their schools rather than external sources. The subjects indicated that they used a wide variety of sources, as shown in Table 5. The majority of the total sample stated that their sources of information about curriculum materials were other teachers (96.4%), administrators' announcements (93.4%), catalogues (90.4%), published reviews (89.8%), and official departmental notices (88.8%). Although other sources were used by a less substantial majority of the total sample, only a minority indicated they used electronic databases (23.8%). Twenty-two respondents (11.2%) mentioned that professional development activities provided another significant source for obtaining information about curriculum materials. The activities mentioned ranged from informal networks, meetings of professional associations, and inservice education courses to major conferences and exhibitions. On classifying these sources into the categories of personal and non-personal sources, an analysis of the general pattern indicated a slight preference for non-personal sources (50.7%), although there were wide differences between the levels of particular sources within these two categories.

TABLE 5

DISTRIBUTION OF RESPONDENTS' SOURCES OF INFORMATION ABOUT CURRICULUM MATERIALS BY FREQUENCY

	Always the way	Most usual way	Some-times the way	Never the way	No response	Total
- Administrators' announcements	6 (3.0%)	60 (30.5%)	118 (59.9%)	12 (6.1%)	1 (0.5%)	197
- Talking to teachers	1 (0.5%)	30 (15.2%)	159 (80.7%)	4 (2.0%)	3 (1.5%)	197
- Talking to teacher librarian	0 (0.0%)	20 (10.2%)	106 (53.8%)	22 (11.2%)	49 (24.9%)	197
- Talking to curriculum consultants	0 (0.0%)	13 (6.6%)	154 (78.2%)	27 (13.7%)	3 (1.5%)	197
- Education department publications	1 (0.5%)	29 (14.7%)	145 (73.6%)	19 (9.6%)	3 (1.5%)	197
- Printed reviews	1 (0.5%)	44 (22.3%)	132 (67.0%)	16 (8.1%)	4 (2.0%)	197
- Catalogues	4 (2.0%)	48 (24.4%)	126 (64.0%)	15 (7.6%)	4 (2.0%)	197
- Publishers and suppliers	1 (0.5%)	38 (19.3%)	132 (67.0%)	24 (12.2%)	2 (1.0%)	197
- Visiting libraries	1 (0.5%)	21 (10.7%)	141 (71.6%)	31 (15.7%)	3 (1.5%)	197
- Visiting schools	0 (0.0%)	9 (4.6%)	137 (69.5%)	46 (23.4%)	5 (2.5%)	197
- Electronic databases	0 (0.0%)	2 (1.0%)	45 (22.8%)	146 (74.1%)	4 (2.0%)	197

Table 6 reports the means for independent variables and each source used in unpaired two group t-test analyses and one factor analyses of variance.

TABLE 6

MEANS OF DEMOGRAPHIC FACTORS FOR RESPONDENTS IN EACH SOURCE OF INFORMATION ABOUT CURRICULUM MATERIALS

Variable	Group	Source										
		1	2	3	4	5	6	7	8	9	10	11
Gender	Female	1.289	1.167	1.012	0.899	1.033	1.151	1.258	1.143	1.025	0.825	0.242
	Male	1.333	1.108	0.955	0.973	1.11	1.162	1.137	0.987	0.855	0.778	0.274
Age	39 younger	1.286	1.214	0.944	0.9	0.986	1.059	1.2	1.029	0.899	0.824	0.162
	40 & older	1.32	1.098	1.011	0.951	1.105	1.202	1.213	1.105	0.992	0.797	0.306
Role	Admin.	1.4	1.123	1.014	1.041	1.135	1.2	1.122	1	0.865	0.767	0.243
	Teachers	1.319	1.169	0.942	0.901	1	0.971	1.101	1.014	0.901	0.686	0.143
	Resource	1.143	1.14	1.143	0.796	1.041	1.34	1.5	1.3	1.184	1.041	0.429
Teach-	29 & less	1.413	1.184	1.049	0.99	1.108	1.059	1.184	1.067	0.952	0.767	0.176
	30 & more	1.185	1.099	0.91	0.854	1.011	1.264	1.244	1.099	0.967	0.854	0.341
Pupils	499 & less	1.391	1.174	1.028	0.989	1.056	1.022	1.154	1.065	0.946	0.756	0.178
	500 & more	1.231	1.118	0.948	0.873	1.067	1.272	1.265	1.097	0.971	0.853	0.32
School	Primary	1.433	1.194	1.073	0.99	1.087	1.089	1.186	1.087	1.01	0.784	0.194
	High	1.145	1.1	0.837	0.871	1.029	1.257	1.246	1.114	0.942	0.824	0.348
	Combined	1.217	1.048	1	0.81	1.045	1.136	1.227	0.955	0.773	0.864	0.238
Sector	Public	1.302	1.168	1.01	0.906	1.066	1.132	1.228	1.087	0.949	0.801	0.241
	Private	1.316	1.088	0.932	0.982	1.053	1.211	1.175	1.07	0.982	0.821	0.286
Community	Urban	1.31	1.159	1.017	0.923	1.076	1.146	1.217	1.083	0.949	0.818	0.269
	Rural	1.289	1.081	0.871	0.947	1	1.194	1.194	1.079	1	0.763	0.189

Key: 1 = the subject head, principal, or staff meeting announcements; 2 = other teachers; 3 = the teacher librarian; 4 = outside curriculum consultants; 5 = staffroom noticeboards, or official publications of education departments; 6 = printed reviews and evaluations in professional journals and books; 7 = mail order catalogues; 8 = publishers' sales people or by visiting commercial suppliers; 9 = visiting resource centres and libraries; 10 = visiting other schools, regional or district offices, universities or colleges; and 11 = electronic databases.

Unpaired two group t-test analyses were performed separately for two groups within the demographic factors of gender, age, numbers of full-time teachers, numbers of pupils, sector, and type of community. One factor analyses of variance were performed separately for three groups within the demographic factors of role, and type of school. The statistics, summarised in Table 7, indicated that significant differences existed between the use of particular sources and the independent variables of gender, age, role, numbers of full-time teachers, numbers of pupils, and type of school.

Significant differences were found between administrators and teachers on their use of printed reviews (Fisher .178, $p < 0.05$), as well as between administrators and resource specialists on their use of outside curriculum consultants (Fisher .16, $p < 0.05$), mail order catalogues (Fisher .211, $p < 0.05$), publishers' sales people or commercial suppliers (Fisher .204, $p < 0.05$), resource centres and libraries (Fisher .19, $p < 0.05$), other schools, regional or district offices, universities or colleges (Fisher .176, $p < 0.05$), and electronic databases (Fisher .163, $p < 0.05$), and also between teachers and resource specialists on their use of printed reviews (Fisher .198, $p < 0.05$), mail order catalogues (Fisher .214, $p < 0.05$), publishers' sales people or commercial suppliers (Fisher .206, $p < 0.05$), resource centres and libraries (Fisher .192, $p < 0.05$), other schools, regional or district offices, universities or colleges (Fisher .177, $p < 0.05$), and electronic databases (Fisher .165, $p < 0.05$). Significant differences were found between respondents from primary and high schools on their use of the subject head, principal, or staff meeting announcements (Fisher .19, $p < 0.05$), and the teacher librarian (Fisher .188, $p < 0.05$).

TABLE 7

SUMMARY OF T-TEST ANALYSES AND ONE FACTOR ANALYSES OF VARIANCE FOR DEMOGRAPHIC FACTORS IN EACH SOURCE OF INFORMATION ABOUT CURRICULUM MATERIALS

Independent						Source						
Variable		1	2	3	4	5	6	7	8	9	10	11
Gender	t-value	-.474	.944	-.651	-1.21	-1.002	-.132	1.354	1.851	2.175	.632	-.473
	prob.	.6358	.3462	.516	.2641	.3176	.895	.1773	.0656	.0309*	.5283	.637
Age	t-value	-.362	1.887	-.722	-.767	-1.543	-1.717	-.144	-.887	-1.156	.352	-2.101
	prob.	.7174	.0607	.4717	.4441	.1244	.0877	.8853	.3764	.2492	.7249	.037*
Role	F ratio	2.525	.216	.63	4.736	1.304	7.191	8.216	4.998	6.143	8.206	5.886
	prob.	.0827	.8062	.534	.0098**	.2737	.001**	.0004**	.0077**	.0026**	.0004**	.0033**
Teachers	t-value	2.568	1.422	1.583	2.128	1.311	-2.594	-.686	-.38	-.19	-1.201	-2.511
	prob.	.011*	.1568	.1157	.0346*	.1914	.0102*	.4935	.7041	.8493	.2311	.0129*
Pupils	t-value	1.788	.933	.911	1.815	-.185	-3.185	-1.273	-.384	-.322	-1.348	-2.171
	prob.	.0754	.3522	.3639	.0711	.8746	.0017**	.2047	.7015	.7477	.1793	.0312*
School	F ratio	4.747	1.688	3.094	2.304	.276	1.922	.209	.647	1.832	.28	2.356
	prob.	.0097**	.1876	.0483*	.1026	.7593	.1492	.8118	.5245	.1628	.7558	.0976
Sector	t-value	-.137	1.214	.809	-1.072	.16	-.891	.549	.184	-.395	-.25	-.614
	prob.	.8912	.2262	.4201	.2848	.8727	.3742	.5837	.8541	.6929	.8025	.5399
Community	t-value	.181	1.02	1.358	-.298	.811	-.466	.197	.037	-.527	.606	.952
	prob.	.8568	.3092	.1767	.766	.4185	.6419	.8438	.9707	.5989	.5454	.3422

Key A: 1 = the subject head, principal, or staff meeting announcements; 2 = other teachers; 3 = the teacher librarian; 4 = outside curriculum consultants; 5 = staffroom noticeboards, or official publications of education departments; 6 = printed reviews and evaluations in professional journals and books; 7 = mail order catalogues; 8 = publishers' sales people or by visiting commercial suppliers; 9 = visiting resource centres and libraries; 10 = visiting other schools, regional or district offices, universities or colleges; and 11 = electronic databases.

Key B: * $p < 0.05$; ** $p < 0.01$

An open-ended item enabled respondents to list criteria they perceived explained their preferences for using particular sources. The most frequent responses were availability of sources cited by 32 respondents (16.2%), relevance of sources to the needs of the school, curriculum or students indicated by 26 respondents (13.2%), time constraints listed by 23 respondents (11.7%), credibility of sources listed by 22 respondents (11.2%), and convenience of sources in close proximity to schools listed by 22 respondents (11.2%). The respondents indicated less frequently eighteen other criteria: 17 respondents (8.6%) listed availability of sample materials; 15 respondents (7.6%) indicated financial constraints; 14 respondents (7.1%) listed expertise of colleagues as a source; 14 respondents (7.1%) listed regularity and reliability of publishers' representatives as a source; 13 respondents (6.6%) listed ease of access to sources; 12 respondents (6.1%) listed preference for a wide range of sources; 10 respondents (5.1%) cited networking with colleagues as a source; 10 respondents (5.1%) listed availability of data from trials; 8 respondents (4.1%) listed reliability of sources; 7 respondents (3.6%) listed presentation of information by sources; 7 respondents (3.6%) listed relevance of sources; 5 respondents (2.5%) listed practicality of sources; 5 respondents (2.5%) listed credibility of printed reviews; 4 respondents (2.0%) listed awareness of a source: 3 respondents (1.5%) listed interest and access to electronic sources; 3 respondents (1.5%) listed readability levels of listed materials; 2 respondents (1.0%) listed currency of information; and 2 respondents (1.0%) listed exclusion of sexist and racist biases from listed materials. Fourteen respondents (7.1%) listed other criteria, which constituted a miscellaneous group. The criteria were classified into two main categories: education oriented criteria; and non-education oriented criteria. It was found that 147 responses (50.7%) were related to non-education oriented criteria, whilst education oriented criteria accounted for 143 responses (49.3%).

5.2.3 Selection of Curriculum Materials

Third, the study sought to identify the prevailing policies and procedures applied in the subjects' schools for selecting curriculum materials. They were expected to influence the decision-making process the subjects used for selecting curriculum materials, and their perceptions about improving these procedures. These policies and procedures were examined by investigating three dimensions: the persons and groups most influential in the general selection of materials; the characteristics of the decision-making process, including the units involved in the selection and adoption of materials, the ways in which materials were introduced, the stages of the process, and the constraints affecting the process; and suggested changes to improve the procedures.

Table 8 shows that the greatest percentage of the total sample indicated that they perceived decision-making in selecting curriculum materials involved extensive participation by individual teachers (96.5%), resource specialists (95.0%), and administrators (84.7%). The respondents viewed these personnel to be more often involved in selecting materials than collective groups, such as subject-based committees (72.1%), or school-wide committees (68.6%). It was evident, however, that a minority of schools relied on collective decision-making processes for selecting curriculum materials. On the other hand, the respondents perceived that groups or individuals from outside their schools were only occasionally involved in the decision-making process. Although the greatest percentage of the total sample believed publishers' representatives (86.3%) participated to some extent in the decision-making process, few believed interest groups (43.1%), and external administrators and committees (38.0%) influenced the decision-making process greatly.

TABLE 8

DISTRIBUTION OF RESPONDENTS' OPINIONS ABOUT PARTICIPANT GROUPS IN THE DECISION-MAKING PROCESS OF SELECTING CURRICULUM MATERIALS BY FREQUENCY

	Always the way	Most usual way	Sometimes the way	Never the way	No response	Totals
- Outside administrator or committee	1 (0.5%)	6 (3.0%)	68 (34.5%)	120 (60.9%)	2 (1.0%)	197

TABLE 8 (continued)

	Always the way	Most usual way	Some-times the way	Never the way	No response	Totals
- Subject head or principal	6 (3.0%)	53 (26.9%)	108 (54.8%)	30 (15.2%)	0 (0.0%)	197
- School-wide committee	10 (5.1%)	63 (32.0%)	62 (31.5%)	60 (30.5%)	2 (1.0%)	197
- Subject department committees	8 (4.1%)	70 (35.5%)	64 (32.5%)	50 (25.4%)	5 (2.5%)	197
- Resource specialists	8 (4.1%)	76 (38.6%)	103 (52.3)	8 (4.1%)	2 (1.0%)	197
- Individual teachers	7 (3.6%)	77 (39.1%)	106 (53.8%)	7 (3.6%)	0 (0.0%)	197
- Publishers' representatives	1 (0.5%)	31 (15.7%)	138 (70.1%)	25 (12.7%)	2 (1.0%)	197
- Special interest groups	0 (0.0%)	3 (1.5%)	82 (41.6%)	108 (54.8%)	4 (2.0%)	197

Table 9 reports the means for independent variables and each participant group used in unpaired two group t-test analyses and one factor analyses of variance.

TABLE 9

MEANS OF DEMOGRAPHIC FACTORS FOR RESPONDENTS' OPINIONS ABOUT EACH PARTICIPANT GROUP IN THE DECISION-MAKING PROCESS OF SELECTING CURRICULUM MATERIALS

Independent Variable		Participant Group 1	2	3	4	5	6	7	8
Gender	Female	0.319	1.107	1.067	1.161	1.504	1.438	1.042	0.395
	Male	0.592	1.289	1.197	1.23	1.316	1.408	1.039	0.554
Age	39 younger	0.29	1.169	1.143	1.386	1.457	1.423	0.913	0.406
	40 & older	0.504	1.176	1.113	1.083	1.411	1.432	1.104	0.488
Role	Admin.	0.587	1.213	1.293	1.239	1.28	1.427	1.093	0.63
	Teachers	0.371	1.25	1.211	1.338	1.296	1.417	0.9	0.338
	Resource	0.26	1.02	0.714	0.9	1.857	1.44	1.16	0.367
Teach-ers	29 and	0.4	0.981	1.467	1.297	1.438	1.4	0.952	0.5
	30 and	0.456	1.402	0.711	1.066	1.422	1.457	1.144	0.407
Pupils	499 & less	0.441	1	1.355	1.211	1.409	1.441	0.968	0.5
	500 & more	0.412	1.337	0.902	1.167	1.451	1.413	1.108	0.417
School	Primary	0.417	0.981	1.558	1.31	1.49	1.356	0.971	0.49
	High	0.429	1.486	0.614	1.014	1.391	1.471	1.171	0.464
	Combined	0.455	1.13	0.619	1.182	1.273	1.609	0.952	0.273
Sector	Public	0.428	1.129	1.223	1.172	1.486	1.41	1.029	0.445
	Private	0.421	1.293	0.857	1.224	1.298	1.466	1.071	0.482

TABLE 9 (continued)

Independent Variable		Participant Group 1	2	3	4	5	6	7	8
Com-munity	Urban	0.433	1.195	1.089	1.199	1.433	1.428	1.096	0.458
	Rural	0.395	1.105	1.237	1.139	1.421	1.421	0.816	0.447

Key A: 1 = outside administrator or committee; 2 = subject head or principal; 3 = school committee; 4 =committees of teachers from each subject department; 5 = resource materials specialists; 6 = individual teachers; 7 = publishers' representatives; and 8 = special interest groups

Unpaired two group t-test analyses were performed separately for two groups within the demographic factors of gender, age, numbers of full-time teachers, numbers of pupils, sector, and type of community. One factor analyses of variance were performed separately for three groups within the demographic factors of role, and type of school. The statistics, summarised in Table 10, indicated that significant differences existed between participant groups and the independent variables of gender, age, role, numbers of full-time teachers, numbers of pupils, type of school, sector, and type of community.

Significant differences were found between administrators' and teachers' opinions about the participation of publishers' representatives (Fisher .179, $p < 0.05$), and special interest groups (Fisher .169, $p < 0.05$), as well as between administrators' and resource specialists' opinions about the participation of outside administrators or committees (Fisher .205, $p < 0.05$), school committees (Fisher .32, $p < 0.05$), committees of teachers from each subject department (Fisher .313, $p < 0.05$), resource specialists (Fisher .215, $p < 0.05$), and special interest groups (Fisher .187, $p < 0.05$), and also between teachers' and resource specialists' opinions about the participation of school committees (Fisher .323, $p < 0.05$), committees of teachers from each subject department (Fisher .313, $p < 0.05$), resource specialists (Fisher .218, $p < 0.05$), and publishers' representatives (Fisher .2, $p < 0.05$). Significant differences were found between the opinions of respondents from primary and high schools about the participation of outside administrators or committees (Fisher .208, $p < 0.05$), and school committees (Fisher .238, $p < 0.05$), as well as between the opinions of respondents from primary schools and schools with combined primary and secondary levels about the participation of school committees (Fisher .369, $p < 0.05$), and also between the opinions of respondents from high schools and schools with combined primary and secondary levels about the participation of outside administrators or committees (Fisher .323, $p < 0.05$).

TABLE 10

SUMMARY OF T-TEST ANALYSES AND ONE FACTOR ANALYSES OF VARIANCE OF DEMOGRAPHIC FACTORS FOR RESPONDENTS' OPINIONS ABOUT EACH GROUP PARTICIPATING IN THE DECISION-MAKING PROCESS OF SELECTING CURRICULUM MATERIALS

Independent Variable		Participant Group 1	2	3	4	5	6	7	8
Gender	t-value	-3.272	-1.743	-0.975	-0.53	2.016	0.329	0.031	-2.045
	prob.	.0013**	.0828	.3308	.5965	.0452*	.7422	.9752	.0422*

TABLE 10 (continued)

Independent Variable		Participant Group							
		1	2	3	4	5	6	7	8
Age	t-value	-2.484	-0.065	0.22	2.347	0.477	-0.102	-2.334	-1.029
	prob.	.0139*	.9479	.826	.02*	.6339	.9191	.0206*	.3049
Role	F ratio	5.441	1.679	0.7011	4.024	16.832	0.02	3.858	6.775
	prob.	.005**	.1892	.0012**	.0194*	.0001**	.9797	.0228*	.0014**
Teachers	t-value	-0.664	-4.292	6.345	1.845	0.172	-0.634	-2.441	1.224
	prob.	.5076	.0001**	.0001**	.0666	.8637	.5269	.0155*	.2223
Pupils	t-value	0.348	-3.375	3.579	0.352	-0.46	0.307	-1.772	1.08
	prob.	.7282	.0009**	.0004**	.7255	.6461	.759	.078	.2814
School	F ratio	0.038	11.553	35.302	2.403	1.251	1.849	3.094	1.545
	prob.	.9629	.0001**	.0001**	.0932	.2886	.1601	.0476*	.2159
Sector	t-value	0.071	-1.464	2.58	-0.382	1.866	-0.568	-0.485	-0.438
	prob.	.9438	.1449	.0106*	.7028	.0635	.5707	.6283	.6618
Community	t-value	0.364	0.692	-0.898	0.37	0.104	0.059	2.84	0.111
	prob	.7162	.4898	.3702	.7116	.9174	.9533	.005**	.9115

Key A: 1 = outside administrator or committee; 2 = subject head or principal; 3 = school committee; 4 =committees of teachers from each subject department; 5 = resource materials specialists; 6 = individual teachers; 7 = publishers' representatives; and 8 = special interest groups

Key B: * $p < 0.05$; ** $p < 0.01$

In order to obtain an accurate account and complete picture of the characteristics of the process for selecting curriculum materials, respondents were asked to describe the main procedure within their schools. Their responses reflected a wide range, and four aspects of the decision-making process were analysed: the number and kinds of selection and adoption units involved in making decisions; the ways in which materials were introduced; the steps in the selection procedure; and constraints affecting the selection of materials.

Table 11 presents a matrix indicating the respondents' views of the main units involved in selecting curriculum materials in the rows, and the main units involved in adopting selections in the columns. The most frequently occurring response for selection involved group choice by teachers and the curriculum coordinator in subject departments or curriculum areas, which occurred in 37 schools (45.1%). This selection type employed five adoption units, some of which, such as individual choice by curriculum coordinators, and group choice by teachers and the curriculum coordinator in subject departments, were common. Other types of selection units were encountered infrequently in the sample of schools. Group choice by teachers and school administrators collectively, accounted for 6 schools (7.3%), group choice by school administrators, curriculum coordinators, and resource specialists, and individual choice by teachers, accounted for 5 schools (6.1%) each, individual choice by curriculum coordinators accounted for 4 schools (4.9%), whilst group choice by teachers collectively was found in 2 schools (2.4%). The most frequently occurring adoption units among these uncommon selection types were group choice by teachers and school administrators collectively, group choice by school administrators, curriculum coordinators, and resource specialists, and individual choice by administrators. The 23 schools (28.0%), categorised as having no definable selection and adoption procedure, failed to provide sufficient information to identify the units involved in the decision-making process.

The extent of integration between procedures for selecting and adopting materials for use in classrooms and resource centres was examined by comparing the descriptions provided by resource specialists with those of administrators and teachers. It was found that the procedures were integrated in 26 schools to form school-wide selection and adoption procedures, whilst 10 schools had separate procedures for classrooms and resource centres. Insufficient information was provided by respondents to form judgments concerning the remaining 46 schools. An analysis of statements by 50 resource specialists indicated they performed five main roles: 4 resource specialists (8.0%) surveyed needs for curriculum materials in consultation with teachers; 7 resource specialists (14.0%) selected materials for resource centres in consultation with teachers; 5 resource specialists (10.0%) selected materials for both classrooms and resource centres in conjunction with teachers; 6 resource specialists (12.0%) approved selections of materials for both classrooms and resource centres in consultation with teachers; 6 resource specialists (12.0%) ordered materials from distributors; 18 resource specialists (36.0%) did not specify their roles; and 4 resource specialists (8.0%) did not present responses.

TABLE 11

MATRIX OF MAIN SELECTION AND ADOPTION PROCEDURES IN RESPONDENTS' SCHOOLS

Selection Unit	Adoption Unit										
	1	2	3	4	5	6	7	8	9	10	Total
1	1	0	0	0	0	0	1	0	0	0	2
2	0	12	5	1	0	0	1	18	0	0	37
3	0	0	4	1	0	0	0	0	0	0	5
4	0	0	1	3	0	0	1	0	1	0	6
5	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	1	0	2	2	0	0	0	5
7	0	0	0	0	0	0	0	0	0	0	0
8	0	0	1	2	1	0	0	0	0	0	4
9	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	23	23
Total	1	12	11	8	1	2	5	18	1	23	82

Key: 1 = group choice by teachers collectively; 2 = group choice by teachers and curriculum coordinator in curriculum areas or subject departments; 3 = group choice by school administrators, curriculum coordinators, and/or resource specialists; 4 = group choice by teachers and school administrators collectively; 5 = group choice by the school council; 6 = individual choice by teachers; 7 = individual choice by administrators; 8 = individual choice by curriculum coordinators; 9 = individual choice by resource specialists; and 10 = no definable procedure.

Examination of the ways in which materials were introduced was conducted by examining subjects' responses concerning seven techniques used prior to selection decisions: whether samples were available; whether comparative studies of materials were conducted; whether previews were conducted; whether demonstrations were presented; whether trials were conducted; whether expert consultants were used; and whether selection criteria were specified. It was apparent that relatively few respondents viewed these techniques as important for decision-making during the

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selection process: 11 respondents (5.6%) indicated samples were available; 11 respondents (5.6%) mentioned comparative studies of materials were conducted; 3 respondents (1.5%) indicated previews were conducted; 1 respondent (0.5%) stated demonstrations were presented; 4 respondents (2.0%) indicated trials were conducted; no respondents (0.0%) mentioned expert consultants were used; and 6 respondents (3.0%) stated selection criteria were specified.

Subjects' responses were also examined concerning the nature of the selection procedure, that is, whether it involved two or more units, and whether it involved two steps, or three or more steps. Seventeen respondents (8.6%) from 14 schools stated that the selection process involved participation by two units. An analysis of their responses indicated three patterns: 9 respondents perceived individual teachers and curriculum coordinators participating as separate units; 5 respondents perceived individual teachers and resource specialists participating as separate units; 2 respondents perceived curriculum coordinators and principals operating as independent units; and 1 respondent perceived a school-wide committee and grade level committees operating as independent units. On the other hand, 17 respondents (8.6%) from 12 schools specified the selection process involved two steps. Only 10 respondents (5.1%), each from a different school, specified that the selection process involved three or more steps.

Subjects' responses about constraints were classified according to six categories: financial or economic constraints; administrative constraints; political constraints; legal constraints; pressures from community groups; or no perceived constraints. From the total sample, 44 respondents (22.3%) from 36 schools (43.9%) believed financial or economic constraints affected the selection of materials. An analysis of this group by sector indicated that respondents from 29 public schools (47.5%) mentioned that the selection of materials was affected by financial or economic constraints, whilst this proportion fell to 4 Catholic schools (28.6%) and 3 independent schools (42.9%). On the other hand, only 9 respondents (4.6%) from 8 schools mentioned that external policies of state education agencies, Catholic education offices, or internal school policies influenced the selection of materials. Only 6 respondents (3.0%) mentioned that legal constraints, which stemmed from guidelines provided by state accreditation agencies or national curriculum statements and profiles, affected the selection of materials. No respondents reported that constraints arose from administrative requirements or pressures from community groups. The majority of the total sample (70.1%), however, reported no constraints on the procedure for selecting materials.

The influence of demographic factors on the types of selection and adoption procedures in 59 schools, which provided this information, was examined for interaction in terms of individual or group processes within the eight independent variables. Table 12 shows that the frequency of individual and group processes for selecting and adopting materials in small schools is different from large schools, with selections being determined more often by units involving individuals, whilst adoptions are determined more often by units involving groups. A similar relationship is found when the type of school is examined. At one extreme, selections are determined more often by units involving individuals and adoptions are determined more often by units involving groups in primary schools, whilst at the other extreme, selections are determined more often by units involving groups and adoptions are determined more often by units involving individuals in schools with both primary and secondary levels. There was also a higher frequency of units involving individuals in both selecting and adopting materials in private schools, and in rural schools.

TABLE 12

DISTRIBUTION OF MAIN SELECTION AND ADOPTION PROCEDURES IN SCHOOLS BY DEMOGRAPHIC VARIABLES

(N = 59)

Demographic Variable	Selection Unit			Adoption Unit		
	Individual	Group	Total	Individual	Group	Total
Teachers:						
- 29 and less	8 (24.2%)	25 (75.8%)	33 (100.0%)	12 (36.4%)	21 (63.6%)	33 (100.0%)
- 30 and more	1 (3.8%)	25 (96.2%)	26 (100.0%)	14 (53.8%)	12 (46.2%)	26 (100.0%)
Pupils:						
- 499 and less	8 (25.8%)	23 (74.2%)	31 (100.0%)	12 (38.7%)	19 (61.3%)	31 (100.0%)
- 500 and more	1 (3.6%)	27 (96.4%)	28 (100.0%)	13 (46.4%)	15 (53.6%)	28 (100.0%)
Type of School:						
-Primary	8 (25.8%)	23 (74.2%)	31 (100.0%)	11 (35.5%)	20 (64.5%)	31 (100.0%)
-High	1 (5.3%)	18 (94.7%)	19 (100.0%)	9 (47.4%)	10 (52.6%)	19 (100.0%)
-Combined	0 (0.0%)	9 (100.0%)	9 (100.0%)	7 (77.8%)	2 (22.2%)	9 (100.0%)
Sector:						
- Public	5 (13.2%)	33 (86.8%)	38 (100.0%)	14 (36.8%)	24 (63.2%)	38 (100.0%)
- Private	4 (19.0%)	17 (81.0%)	21 (100.0%)	11 (52.4%)	10 (47.6%)	21 (100.0%)
Community:						
- Urban	5 (10.4%)	43 (89.6%)	48 (100.0%)	23 (47.9%)	25 (52.1%)	48 (100.0%)
- Rural	4 (36.4%)	7 (63.6%)	11 (100.0%)	8 (72.7%)	3 (27.3%)	11 (100.0%)

The issue of changing the selection process was investigated by measuring the respondents' attitudes towards centralising or decentralising procedures, as shown in Table 13. The greatest percentage of the total sample agreed that decentralised selection procedures, offered through schoolwide selection committees (68.5%), provided the best means for improving the selection of curriculum materials. There was some support, however, for centralising selection procedures with minorities of respondents agreeing that statewide committees (42.1%) or a nationwide committee (30.0%), formed the best means for improving the selection of curriculum materials. It should be noted that the percentage of respondents, who were uncertain whether a recommended strategy would improve selections, rose markedly for alternatives indicating increased centralisation.

TABLE 13

DISTRIBUTION OF RESPONDENTS' OPINIONS ABOUT CENTRALISING OR DECENTRALISING SELECTION PROCEDURES

	Yes, definitely	Yes, probably	Uncertain	No, probably not	No, definitely not	No response	Total
- Nationwide committee	9 (4.6%)	50 (25.4%)	57 (28.9%)	51 (25.9%)	25 (12.7%)	5 (2.5%)	197

TABLE 13 (continued)

	Yes, definitely	Yes, probably	Uncertain	No, probably not	No, definitely not	No response	Total
- State or regional committees	12 (6.1%)	71 (36.0%)	46 (23.4%)	47 (23.9%)	17 (8.6%)	4 (2.0%)	197
- Committees in each school	54 (27.4%)	81 (41.1%)	29 (14.7%)	20 (10.2%)	5 (2.5%)	8 (4.1%)	197

Table 14 reports the means for independent variables and each selection procedure used in unpaired two group t-test analyses and one factor analyses of variance.

TABLE 14

MEANS OF DEMOGRAPHIC FACTORS FOR RESPONDENTS' OPINIONS ABOUT CENTRALISING OR DECENTRALISING SELECTION PROCEDURES

Variable	Group		Selection Committee	
		Nationwide	Statewide	Schoolwide
Gender	Female	-0.388	-0.12	0.836
	Male	0.158	0.368	0.849
Age	39 younger	-0.304	-0.101	0.913
	40 & older	-0.09	0.179	0.798
Role	Admin.	0.093	0.387	0.875
	Teachers	-0.377	-0.203	0.897
	Resource	-0.292	-0.02	0.714
Teachers	29 & less	-0.231	0.124	1.049
	30 & more	-0.102	0.011	0.593
Pupils	499 & less	-0.239	0.065	1.065
	500 & more	-0.11	0.08	0.629
School	Primary	-0.235	0.058	1.05
	High	0.029	0.159	0.612
	Combined	-0.5	-0.143	0.571
Sector	Public	-0.176	0.087	0.918
	Private	-0.161	0.036	0.655
Community	Urban	-0.169	0.045	0.876
	Rural	-0.184	0.184	0.694

Unpaired two group t-test analyses were performed separately for two groups within the demographic factors of gender, numbers of full-time teachers, numbers of pupils, sector, and type of community. One factor analyses of variance were performed separately for three groups within the demographic factors of role, and type of school. The statistics, summarised in Table 15, indicated that significant differences existed between the use of particular sources and the independent variables of gender, role, numbers of full-time teachers, numbers of pupils, and type of school.

Significant differences were found between administrators' and teachers' opinions about centralising selection procedures in a nationwide committee (Fisher .357, $p < 0.05$), and statewide committees (Fisher .354, $p < 0.05$), as well as between administrators' and resource specialists' opinions about centralising selection procedures in statewide committees (Fisher .39, $p < 0.05$). Significant differences were found between the opinions of respondents from primary and high schools about centralising selection procedures in schoolwide committees (Fisher .317, $p < 0.05$).

TABLE 15

SUMMARY OF T-TEST ANALYSES AND ONE FACTOR ANALYSES OF VARIANCE FOR DEMOGRAPHIC FACTORS ON RESPONDENTS' OPINIONS ABOUT CENTRALISING OR DECENTRALISING SELECTION PROCEDURES

Independent Variable			Selection Committee	
		Nationwide	Statewide	Schoolwide
Gender	t-value	-3.456	-3.073	-0.084
	prob.	.0007**	.0024**	.933
Age	t-value	-1.293	-1.7	0.726
	prob.	.1976	.0908	.4685
Role	F ratio	3.764	5.641	0.499
	prob.	.0249*	.0042**	.6082
Teachers	t-value	-0.805	0.705	3.066
	prob.	.4216	.4814	.0025**
Pupils	t-value	-0.811	-0.097	2.942
	prob.	.4181	.9226	.0037**
School	F ratio	2.316	0.622	4.526
	prob.	.1015	.5378	.012*
Sector	t-value	-0.09	0.287	1.588
	prob.	.9284	.7742	.1139
Community	t-value	0.077	-0.696	0.941
	prob.	.9387	.487	.3477

Key: * $p < 0.05$; ** $p < 0.01$

The bipolar direction of attitudes on this issue was reflected in the diversity of alternative procedures stated by 36 respondents, which included four main groupings of opinions. Thirteen respondents gave qualified support for a nationwide, or statewide selection committees, providing lists of recommended materials for selection and adoption within individual schools. In support of this view, they argued that more centralised committees would have greater expertise, access to a wide range of available materials, and would provide systemwide uniformity in the curriculum. Another 5 respondents believed a combination of nationwide, statewide and schoolwide selection procedures could be applied, depending on the relevance of the materials to be selected. A further 3 respondents were not convinced that the recommended strategies for centralising selection procedures were appropriate, because of doubts about their efficiency and the extent to which classroom teachers could be involved. Eight respondents supported the use of school-based selection procedures in subject departments, because they believed them to be more efficient and would involve classroom teachers more efficiently.

5.2.4 Availability and Use of Information Services

Fourth, the respondents were expected to access some of the available electronic information services for obtaining curriculum information. The extent of access to available electronic information services, however, was expected to depend on the availability of appropriate equipment and facilities, which were categorised into four formats: printed journals held in library collections; micrographics equipment; electronic facilities in the forms of on-line information retrieval systems and videotex; and optical publishing applications, such as CD-ROM.

It was found that 16 schools (19.5%) had equipment capable of accessing on-line information retrieval systems, 3 schools (3.7%) had equipment capable of accessing videotex, 45 schools (54.9%) had equipment capable of accessing CD-ROMs, 54 schools (65.9%) had micrographics equipment, and 82 schools (100.0%) had library collections. Table 16 shows that the majority of the total sample indicated they had access to micrographics equipment (67.5%) and equipment for accessing CD-ROMs (56.9%) in their schools. Only a minority, however, reported that they had access to on-line information retrieval systems (21.3%) and videotex (5.1%) in their schools. In addition, substantial minorities of respondents reported they had access to micrographics equipment (19.3%), on-line information retrieval systems (13.7%), CD-ROMs (11.2%), and videotex (9.1%) in public libraries or institutions of higher education. Few respondents reported they had access to these facilities in their homes. On the other hand, the greatest percentage of the sample reported that they did not have access to videotex (85.8%), on-line information retrieval systems (67.0%), whilst substantial minorities reported they did not have access to CD-ROMs (32.5%) or micrographics equipment (21.8%).

TABLE 16

DISTRIBUTION OF EQUIPMENT FOR ACCESSING INFORMATION SERVICES IN RESPONDENTS' COMMUNITIES BY FACILITY

	In the school	In a public library or higher education institution	In the home	Not available	No response	Total responses
- Equipment for accessing on-line information retrieval systems	42 (21.3%)	27 (13.7%)	2 (1.0%)	132 (67.0%)	1 (0.5%)	204
- Equipment for accessing videotex	10 (5.1%)	18 (9.1%)	2 (1.0%)	169 (85.8%)	1 (0.5%)	200
- Equipment for accessing CD-ROMs	112 (56.9%)	22 (11.2%)	5 (2.5%)	64 (32.5%)	1 (0.5%)	204
- Micrographics equipment	133 (67.5%)	38 (19.3%)	1 (0.5%)	43 (21.8%)	0 (0.0%)	215
- Library collection	197(100.0%)	38 (19.3%)	19 (9.6%)	0 (0.0%)	0 (0.0%)	254

The subjects were asked whether they accessed the Schools Cataloguing and Information Service (SCIS) provided by the Curriculum Corporation. SCIS has been provided in five formats: as an online service; as a set of microfiche collections; as machine readable records on disc (ASCIS80); as catalogue cards; and formerly as a database of selected records on AUSTROM (Australian Social

Science, Law and Education Databases on CD-ROM). Table 17 shows that a minority of the total sample indicated they used the SCIS database (18.8%). Forty-seven respondents (23.9%) indicated they accessed other databases, which were identified by 27 respondents. These respondents reported using seven information services: 10 respondents used NEXUS, the South Australia Department of Education's electronic bulletin board, which offers the Australian Associated Press; 4 respondents accessed the ERIC database; 3 respondents used AUSTGUIDE Guidelines: A Subject Guide for Australian Libraries, provided by Informit RMIT Libraries; 2 respondents used the Commonwealth Scientific and Industrial Research Organisation (CSIRO) Australis' Science and Geography Education (SAGE) database; 2 respondents used NCIN, a subset of the SCIS database; 2 respondents accessed Keylink, an electronic mail service; 2 respondents used the Queensland Newspapers Information Service (QNIS); and 2 respondents used PressCom, the online service of the *Adelaide Advertiser*. Single respondents reported using 9 other databases.

TABLE 17

DISTRIBUTION OF RESPONDENTS' USE OF INFORMATION SERVICES ON CURRICULUM MATERIALS BY FORMAT

	Directly on-line	Directly on CD-ROM	With help of an information professional	By microforms, on disc, or in print	Never	No response	Total responses
- SCIS	12 (6.1%)	5 (2.5%)	11 (5.6%)	9 (4.6%)	152 (77.2%)	11 (5.6%)	200
- Other databases	20 (10.2%)	18 (9.1%)	6 (3.0%)	18 (9.1%)	121 (61.4%)	25 (12.7%)	208

An open-ended item enabled respondents to list reasons explaining why they used, or did not use, electronic databases to identify information about curriculum materials. The most frequent responses were lack of access, cited by 38 respondents (19.3%), and cost constraints mentioned by 37 respondents (18.8%). The respondents indicated less frequently eight other constraints: 27 respondents (13.7%) indicated lack of expertise to access information technology; 26 respondents (13.2%) indicated lack of awareness about available information services; 15 respondents listed time constraints (7.6%); 14 respondents (7.1%) cited lack of available computer hardware; 12 respondents (6.1%) indicated a lack of need for the type of information provided; 12 respondents (6.1%) mentioned preferences for other more efficient sources to identify curriculum materials; 10 respondents (5.1%) listed lack of training as a constraint; and 5 respondents (2.5%) specified lack of currency in information contained in databases.

5.2.5 Use of a Prospective Information Service on Curriculum Materials

Fifth, the respondents' perceptions concerning the different factors and features, which would influence their use of a prospective information service, were expected to relate to the value and quality of the information, the cost of the information service, the facilities provided by the information service, and the format in which the information service was delivered. Table 18 shows that the greatest percentage of the sample agreed that relevance of information (98.4%), currency of information (97.9%), and ease of use (91.5%) were the key factors determining their potential use of a prospective service providing information about curriculum materials. There was also strong support from the majority of respondents for the availability of documentation for users (82.7%), provision of the database in a printed format (81.7%), and provision of a telephone helpline service (77.1%). There was less support and a greater degree of uncertainty among respondents about the value of a delivery service for source documents (69.5%), provision of the database on CD-ROM (67.0%) or on-line (61.9%), and for an offline search service (59.4%). A small proportion of the sample mentioned that their use of a prospective information service depended on five other factors: six respondents mentioned cost; three respondents mentioned users' knowledge of the system or inservice training; two respondents mentioned availability of computer equipment; one respondent mentioned relevance of the service to teachers' professional studies; and one respondent mentioned that consideration needed to be given to reporting information relevant to speakers of English-as-a-second-language.

TABLE 18

DISTRIBUTION OF RESPONDENTS' OPINIONS ABOUT FEATURES AFFECTING THE POTENTIAL USE OF A PROSPECTIVE INFORMATION SERVICE ON CURRICULUM MATERIALS

	Yes, definitely	Yes, probably	Uncertain	No, probably not	No, definitely not	No response	Total
- Relevant information	162 (82.2%)	32 (16.2%)	2 (1.0%)	0 (0.0%)	1 (0.5%)	0 (0.0%)	197
- Current information	149 (75.6%)	44 (22.3%)	3 (1.5%)	0 (0.0%)	1 (0.5%)	0 (0.0%)	197
- Ease of use	152 (72.2%)	38 (19.3%)	6 (3.0%)	1 (0.5%)	0 (0.0%)	0 (0.0%)	197
- Documentation	96 (48.7%)	67 (34.0%)	25(12.7%)	7 (3.6%)	0 (0.0%)	2 (1.0%)	197
- Offline search	52 (26.4)	65 (33.0%)	61 (31.0%)	12 (6.1%)	3 (1.5%)	4 (2.0%)	197
- Helpline	76 (38.6%)	77 (39.1%)	27 (13.7%)	13 (6.6%)	3 (1.5%)	1 (0.5%)	197
- Online provision	53 (26.9%)	69 (35.0%)	56 (28.4%)	11 (5.6%)	3 (1.5%)	5 (2.5%)	197
- CD-ROM provision	62 (31.5%)	70 (35.5%)	46 (23.4%)	10 (5.1%)	3 (1.5%)	6 (3.0%)	197
- Printed format	68 (34.5%)	93 (47.2%)	23 (11.7%)	10 (5.1%)	0 (0.0%)	3 (1.5%)	197
- Source materials	67 (34.0%)	70 (35.5%)	45 (22.8%)	11 (5.6%)	1 (0.5%)	3 (1.5%)	197

Table 19 reports the means for independent variables and each feature used in unpaired two group t-test analyses and one factor analyses of variance.

TABLE 19

MEANS OF DEMOGRAPHIC FACTORS FOR RESPONDENTS' OPINIONS ABOUT FEATURES AFFECTING THE POTENTIAL USE OF A PROSPECTIVE INFORMATION SERVICE ON CURRICULUM MATERIALS

Variable	Group	Feature									
		1	2	3	4	5	6	7	8	9	10
Gender	Female	1.818	1.711	1.769	1.308	0.754	1.117	0.797	0.836	1.126	0.958
	Male	1.763	1.763	1.671	1.267	0.827	1	0.865	1.08	1.133	1.027
Age	39 younger	1.803	1.732	1.732	1.186	-0.984	-0.73	0.797	0.957	1.113	1
	40 & older	1.8	1.728	1.728	1.347	0.3265	0.4662	0.836	0.909	1.131	0.984
Role	Admin.	1.787	1.747	1.747	1.243	0.863	1.095	0.932	1.042	1.264	1.181
	Teachers	1.778	1.708	1.708	1.292	0.62	0.833	0.696	0.843	1.167	0.903
	Resource	1.84	1.74	1.74	1.367	0.898	1.38	0.84	0.9	0.88	0.82

TABLE 19 (continued)

Variable Group					Feature						
		1	2	3	4	5	6	7	8	9	10
Teach-ers	29 & less	1.762	1.695	1.752	1.379	0.825	1.115	0.692	0.861	1.176	1.01
	30 & more	1.837	1.772	1.707	1.196	0.733	1.022	0.977	1.011	1.076	0.957
Pupils	499 & less	1.753	1.71	1.763	1.355	0.88	1.33	0.39	0.967	1.209	1.044
	500 & more	1.837	1.75	1.702	1.235	0.693	1.019	0.9	1.901	1.058	0.932
School	Primary	1.817	2.721	1.731	1.382	0.851	1.165	0.723	0.878	1.158	0.97
	High	1.843	1.786	1.7	1.086	0.729	1.057	0.897	1.029	1.171	1.029
	Combined	1.565	1.609	1.826	1.522	0.636	0.696	1.043	0.87	0.87	0.913
Sector	Public	1.806	1.77	1.712	1.285	0.774	1.079	0.763	0.993	1.118	0.978
	Private	1.776	1.638	1.776	1.31	0.804	1.053	0.965	1.789	1.155	1
Com-	Urban	1.83	1.742	1.73	1.312	0.794	1.057	0.872	0.961	1.115	0.981
	Rural	1.658	1.684	1.737	1.211	0.737	1.132	0.611	0.811	1.184	1

Key: 1 = relevant information; 2 = current information; 3 = ease of use; 4 = documentation; 5 = offline search; 6 = helpline; 7 = online provision; 8 = CD-ROM provision; 9 = printed format; and 10 = source documents

Unpaired two group t-test analyses were performed separately for two groups within the demographic factors of gender, age, numbers of full-time teachers, numbers of pupils, sector, and type of community. One factor analyses of variance were performed separately for three groups within the demographic factors of role, and type of school. The statistics, summarised in Table 20, indicate that significant positive associations exist between the availability of particular features and the independent variables of role and type of school.

TABLE 20

SUMMARY OF T-TEST ANALYSES AND ONE FACTOR ANALYSES OF VARIANCE FOR RESPONDENTS' OPINIONS ABOUT FEATURES AFFECTING THE POTENTIAL USE OF A PROSPECTIVE INFORMATION SERVICE ON CURRICULUM MATERIALS

Independent Variable					Feature						
		1	2	3	4	5	6	7	8	9	10
Gender	t-value	0.76	-0.703	1.24	0.342	-0.507	0.825	-0.481	-1.728	-0.61	-0.503
	prob.	.4483	.4809	.2163	.7328	.6126	.4102	.6308	.0857	.9518	.6156
Age	t-value	0.038	0.058	0.055	-1.306	0.686	1	-0.27	0.328	-0.152	0.119
	prob.	.9694	.9539	.9564	.1932	.828	1.105	.7877	.7434	.8795	.9058
Role	F ratio	0.258	0.144	0.102	0.331	1.625	4.98	1.95	0.801	3.496	2.74
	prob.	.7728	.8925	.9033	.7189	.1997	.0078**	.3366	.4506	.0323*	.0671

TABLE 20 (continued)

Independent Variable		Feature									
		1	2	3	4	5	6	7	8	9	10
Teachers	t-value	-1.064	-1.053	0.596	1.55	0.659	0.678	-2.078	-1.079	0.857	.4
	prob.	.2888	.2936	.552	.1228	.5107	.4985	.0389	.2818	.3923	.6896
Pupils	t-value	-1.19	-0.554	0.8	1.01	1.35	0.806	-1.168	0.472	1.288	0.841
	prob.	.2355	.58	.4245	.314	.1787	.4214	.2443	.6372	.1992	.4015
School	F ratio	2.977	1.09	0.473	3.789	0.617	2.273	1.381	0.561	1.335	0.159
	prob.	.0533	.3384	.624	.0243*	.5407	.1058	.2539	.5716	.2656	.8533
Sector	t-value	0.386	1.665	-0.756	-0.198	-0.194	0.174	-1.342	1.344	-0.293	-0.15
	prob.	.6999	.0975	.4506	.8433	.846	.8617	.1811	.1805	.7696	.881
Community	t-value	1.944	0.63	-0.075	0.679	0.324	-0.428	1.482	0.857	0.467	-0.115
	prob.	0.0533	0.5297	0.9405	0.4978	0.7464	0.6693	0.14	0.3928	0.6413	0.9088

Key A: 1 = relevant information; 2 = current information; 3 = ease of use; 4 = documentation; 5 = offline search; 6 = helpline; 7 = online provision; 8 = CD-ROM provision; 9 = printed format; and 10 = source documents

Key B: * $p < 0.05$; ** $p < 0.01$

5.2.6 Presentation of Information about Curriculum Materials

Sixth, the respondents' preferences for choosing different forms of information about curriculum materials on electronic information services were also expected to relate to the value and quality of the information. This issue was investigated by measuring the respondents' preferences for four approaches for providing information about curriculum materials, as shown in Table 21. The greatest percentage of the total sample agreed that descriptive reviews (91.4%) provided the best means for offering this information to school personnel, although the strength of agreement was more positive for both evaluative reviews and an integrated database than for descriptive reviews. There was considerably less support, however, for the provision of full-text records (69.6%). It should be noted that the percentage of respondents, who were uncertain whether the recommended approach would prove useful, increased for those alternatives for which there was less agreement.

TABLE 21

DISTRIBUTION OF RESPONDENTS' OPINIONS ABOUT THE VALUE OF TYPES OF INFORMATION ON CURRICULUM MATERIALS

	Yes, definitely	Yes, probably	Uncertain	No, probably not	No, definitely not	No response	Total
- Descriptive reviews	80 (40.6%)	100 (50.8%)	10 (5.8%)	5 (2.5%)	2 (1.0%)	0 (0.0%)	197

TABLE 21 (continued)

	Yes, definitely	Yes, probably	Uncertain	No, probably not	No, definitely not	No response	Total
- Evaluative reviews	86 (43.7%)	87 (44.2%)	19 (9.6%)	3 (1.5%)	2 (1.0%)	0 (0.0%)	197
- Full-text records	46 (23.4%)	91 (46.2%)	35 (17.8%)	23 (11.7%)	1 (0.5%)	1(0.1%)	197
- Integrated database	83 (42.1%)	77 (39.1%)	27 (13.7%)	8 (4.1%)	1 (0.5%)	1(0.1%)	197

Table 22 reports the means for independent variables and each approach used in unpaired two group t-test analyses and one factor analyses of variance.

TABLE 22

MEANS OF DEMOGRAPHIC FACTORS FOR RESPONDENTS' OPINIONS ABOUT THE VALUE OF TYPES OF INFORMATION ON CURRICULUM MATERIALS

Variable	Group	Format 1. Descriptive	2. Evaluative	3. Full text	4. Integrated
Gender	Female	1.273	1.264	0.783	1.083
	Male	1.276	1.303	0.842	1.355
Age	39 & younger	1.225	1.211	0.563	1
	40 & older	1.304	1.32	0.952	1.306
Role	Admin.	1.36	1.387	0.907	1.311
	Teachers	1.25	1.097	0.806	1.139
	Resource	1.13	1.38	0.653	1.08
Teachers	29 & less	1.305	1.267	0.705	1.058
	30 & more	1.269	1.293	0.923	1.337
Pupils	499 & less	1.269	1.258	0.763	1.043
	500 & more	1.279	1.298	0.845	1.317
School	Primary	1.308	1.24	0.75	1.107
	High	1.229	1.329	0.783	1.329
	Combined	1.261	1.304	1.13	1.13
Sector	Public	1.223	1.216	0.681	1.158
	Private	1.397	1.431	1.103	1.263
Community	Urban	1.296	1.296	0.892	1.203
	Rural	1.184	1.211	0.447	1.132

Key: 1 = descriptive reviews of curriculum materials; 2 = evaluative reviews of curriculum materials, based on a model of curriculum development; 3 = full-text documents of curriculum materials; 4 = a database that matches content, learning activities, and cognitive processes embedded in materials of different media and tests, selecting those best able to remediate identified student weaknesses

Unpaired two group t-test analyses were performed separately for two groups within the demographic factors of gender, age, numbers of full-time teachers, numbers of pupils, sector, and type of community. One factor analyses of variance were performed separately for three groups within the demographic factors of role, and type of school. The statistics, summarised in Table 23, indicate that significant positive associations exist between the availability of particular approaches and the independent variables of gender, age, role, numbers of full-time teachers, numbers of pupils, sector, and type of community.

TABLE 23

SUMMARY OF T-TEST ANALYSES AND ONE FACTOR ANALYSES OF VARIANCE FOR DEMOGRAPHIC FACTORS ON RESPONDENTS' OPINIONS ABOUT THE VALUE OF TYPES OF INFORMATION ON CURRICULUM MATERIALS

Independent Variable		Format			
		1. Descriptive	2. Evaluative	3. Full text	4. Integrated
Gender	t-value	-0.032	-0.333	-0.432	-2.179
	prob.	.9744	.7395	.673	.0305*
Age	t-value	-0.694	-0.934	-2.803	-2.432
	prob.	.4886	.3514	.0056**	.0159*
Role	F ratio	.898	3.146	1.065	1.272
	prob.	.4092	.0452*	.3468	.2828
Teachers	t-value	0.604	-0.24	-1.617	-2.295
	prob.	.5467	.8108	.1074	.0228*
Pupils	t-value	-0.092	-0.24	-1.617	-2.295
	prob.	.9266	.7207	.5499	.0256*
School	F ratio	0.229	0.278	1.564	1.455
	prob.	.7956	.7576	.212	.2361
Sector	t-value	-1.405	-1.772	-2.906	-0.775
	prob.	.1445	.078	.0041**	.4392
Community	t-value	0.811	0.602	2.642	0.456
	prob.	.4184	.5479	.0089**	.6489

Key A: 1 = descriptive reviews of curriculum materials; 2 = evaluative reviews of curriculum materials, based on a model of curriculum development; 3 = full-text documents of curriculum materials; 4 = a database that matches content, learning activities, and cognitive processes embedded in materials of different media and tests, selecting those best able to remediate identified student weaknesses

Key B: * $p < 0.05$; ** $p < 0.01$

An open-ended item allowed respondents to list factors they perceived reflected their preferences for particular approaches in presenting information about curriculum materials. The most frequent response referred to time constraints imposed on using information services, cited by 31 respondents (15.7%). The respondents indicated eleven other frequently mentioned factors: 16 respondents (8.1%) listed particular aspects of the services facilitating selection; 15 respondents (7.6%) indicated ease of use; 14 respondents (7.1%) mentioned access to information services; 11 respondents (5.6%) listed comprehensibility of information reported on materials; 8 respondents (4.1%) listed congruence of the information to educational programs; 7 respondents (3.6%) listed access to identified materials; 7 respondents (3.6%) listed relevance of the information to needs; 6 respondents (3.0%) listed cost constraints imposed on using information services; 6 respondents (3.0%) listed the need for concise information on materials; 6 respondents (3.0%) listed access to computer equipment as a constraint; and 5 respondents (2.5%) listed credibility of information analyses on materials. The respondents also indicated seven infrequently mentioned factors: 3 respondents (1.5%) listed currency of information; 3 respondents (1.5%) listed the relevance of information to students' needs; 2 respondents (1.0%) listed training requirements; 2 respondents (1.0%) listed expertise in information technology; 2 respondents (1.0%) listed the efficiency of information technology; 2 respondents (1.0%) listed the requirement to meet the needs of local contexts; and 2 respondents (1.0%) listed the need for information on trialling data for reported materials. Seven respondents (3.6%) listed other factors, which constituted a miscellaneous group.

5.3 Discussion

5.3.1 Use of Curriculum Materials

The statistical data indicated that certain demographic characteristics are significant factors in determining the respondents' use of curriculum materials. Male respondents used textbooks more frequently than females, whilst females used supplemental reading materials more frequently than males. Role was an important factor in determining the use of three types of material. Administrators relied on textbooks more than teachers. Resource specialists used supplemental reading materials more than their colleagues, whilst both administrators and classroom teachers relied on teacher-developed materials more than their resource specialists. The size of schools also influenced the use of some types of materials; textbooks, audio and video materials were used more frequently by respondents from large schools, whilst supplemental reading materials, non-commercial print materials and teacher-developed materials were used more frequently by respondents from small schools. A similar pattern emerged when comparing the use of materials in different types of schools. Supplemental reading materials, non-commercial print materials, teacher-developed materials and computer software programs were used more often in primary schools, whilst textbooks, audio and video materials were used more frequently in high schools. Sector was an important factor in determining the use of two types of material: kit materials and non-commercial print materials were used more often in public schools. The type of community was also an important influence with kit materials, non-commercial print materials and teacher-developed materials being used more often by respondents in rural schools.

Although the results on the use of curriculum materials in Australian schools are consistent with the findings of published research, it seems that little evidence concerning the effects of demographic factors has been previously collected. Marsh et al. (1981) reported that teachers in a sample of 40 primary schools in Western Australia used a wide range of curriculum materials, but that the emphasis on particular media varied between social studies and mathematics. Bunbury et al. (1984) reported from a survey of 492 English teachers that their use of different, supplemental reading materials varied between grades 5 and 11.

This evidence suggests that the patterns of use between different types of curriculum material were determined more by the nature of educational practice in the schools in which respondents taught, rather than their personal preferences. One can speculate on the extent to which each of the numerous factors, identified by respondents in the open-ended item, influenced the use of materials in different schools, but it is apparent that both educational and non-educational factors were equally important in determining different patterns of use in primary and high schools, and between different subject areas. A limitation of the study was the failure to identify the subject areas in which respondents' taught, because it can be conjectured from data elicited through the open-ended item that certain types of material were used more often in particular subject areas.

5.3.2 Sources of Information about Curriculum Materials

The results indicated that a strong association existed between role with weaker associations between gender, age, size of school, type of school, and particular sources of information about curriculum materials. With regard to role, resource specialists used printed reviews and evaluations in professional journals and books, mail order catalogues, publishers' sales people or commercial suppliers, resource centres and libraries, other schools, regional or district offices, universities or colleges, and electronic databases more frequently than either administrators or teachers, whilst school administrators used outside curriculum consultants more frequently than resource specialists. With regard to size, the subject head, principal, or staff meeting announcements were used more frequently in small schools, whilst printed reviews and evaluations in professional journals and books, and electronic databases were used more frequently in large schools. Furthermore, the subject head, principal, or staff meeting announcements, and the teacher librarian were used more frequently in primary schools. The gender of respondents was only significant for the greater number of visits made by females to resource centres and libraries, whilst older respondents used electronic databases more frequently.

The results are consistent with available research findings published by Marsh et al. (1981), who found that teachers used personal rather than non-personal sources, and internal rather than external sources, although social studies and mathematics teachers made greater or lesser use of particular sources. Similar preferences were reported by Jeffery (1984), who also identified strong correlations between the value and use of most sources, although visits to facilities outside the school were highly valued but used infrequently, whilst printed information was less valued but frequently used.

The evidence suggests that resource specialists tended to use non-personal sources more frequently, whilst school administrators and teachers used personal sources more frequently. On the key factor of school size, it appears that respondents from small schools used personal sources more frequently, whilst respondents from large schools used non-personal sources more frequently. Although the total sample indicated a greater use of sources from within the school, it was evident that resource specialists and respondents from large schools made greater use of external sources.

5.3.3 Selection of Curriculum Materials

The statistical data indicated that certain demographic characteristics were influential in determining the groups participating in the decision-making process of selecting curriculum materials. Male respondents reported that external administrators or committees, and special interest groups were more often involved than did females, whilst female respondents reported that resource specialists were more often involved. Younger respondents reported that committees of teachers from each subject area were more often involved than did older respondents, whilst older respondents reported that external administrators or committees, and publishers' representatives were more often involved. School administrators reported that external administrators or committees, school-wide committees, publishers' representatives, and special interest groups were more often involved than did either teachers or resource specialists. On the other hand, teachers reported that school-wide committees and committees of teachers from each subject area were more often involved than did resource specialists, whilst resource specialists reported that resource specialists and publishers' representatives were more often involved than did teachers. Respondents from large schools reported that subject heads or principals, and publishers' representatives were more often involved in the selection process, whilst respondents from small schools reported that school-wide committees were more often involved. Similarly, respondents from high schools reported that subject heads or principals, and publishers' representatives were more often involved in the selection process, whilst respondents from primary schools reported that school-wide committees were more often involved. Respondents from public schools reported that school-wide committees were more often involved in the selection process than did respondents from private schools. Respondents from urban schools reported that publishers' representatives participated more often in the selection process than did respondents from rural schools.

In spite of the diversity of groups participating in the decision-making process, it was evident that the greatest proportion of schools used group choice by teachers and the curriculum coordinator in subject areas as the main selection procedure. On the other hand, adoption was divided between diverse authorities involving either groups or individuals, although adoption authorities were more frequently based within subject areas. It was apparent from the available evidence that demographic factors, particularly the size of schools, influenced the types of selection and adoption units involved in the decision-making process. Furthermore, a substantial minority of respondents believed the decision-making process was restricted by external factors, particularly financial constraints.

Particular demographic characteristics were also instrumental in determining respondents' attitudes towards changing selection procedures. There was stronger support from male respondents for centralising selection procedures, particularly in statewide committees, whilst female respondents preferred more definitely to retain decentralised procedures at the local level. School administrators also showed a stronger preference for centralising selection procedures than either teachers or resource specialists. On the other hand, respondents from small schools and primary schools preferred decentralised procedures.

The results are consistent with available research findings. Marsh et al. (1981) reported that teachers used a variety of procedures to select curriculum materials, including mutual sharing, a 'first in' basis, requests to principals, selecting from a list, staff committees, suggestions from principals, and allocation of materials by principals. Brimble (1981) reported from a survey of 22 primary teachers in northern Queensland that most subjects believed classroom teachers were very important in the selection of supplemental reading materials, whilst few subjects rated principals and resource teachers as very important. Bunbury et al. (1984) reported that subjects indicated the role allocated to groups in selecting supplemental reading materials increased between grades 5 and 11, whilst the role of individuals decreased. Giddings (1988) reported from a survey of 140 science teachers in 80 public high schools in Western Australia that a majority believed individual schools should be responsible for selecting textbooks for science programs, whilst a minority believed groups of schools or the state education agency should be responsible for selecting curriculum materials.

5.3.4 Availability and Use of Information Services

Although the results showed that the majority of the sample had access to micrographics and CD-ROM equipment, only a minority of this group accessed electronic information services. The responses to an open-ended item identified a variety of impediments limiting the access of school personnel to electronic information services, which are not likely to be overcome in the immediate future. These results, however, contrasted with the findings reported by Clyde and Kirk (1989), who found that 20 schools, which responded to a survey of a small nation-wide sample of schools, each used from 1 to 5 information services.

5.3.5 Use of a Prospective Information Service on Curriculum Materials

Demographic characteristics showed little evidence of having a bearing on respondents' attitudes towards their potential use of a prospective information service on curriculum materials. Resource specialists showed a stronger preference for needing a helpline than teachers, whilst school administrators indicated a stronger preference for having such a database available in a printed format than resource specialists. Respondents from schools with combined primary and secondary levels indicated a stronger preference for documentation, such as a thesaurus, user aids and manuals, to access the information service than respondents from other types of schools.

5.3.6 Presentation of Information about Curriculum Materials

The results showed that certain demographic characteristics were influential in determining the potential use of full-text and integrated databases of information on curriculum materials. Male respondents preferred having access to an integrated database more than females, whilst older respondents preferred both full-text and integrated databases more than younger respondents. Both school administrators and resource specialists preferred evaluative reviews of curriculum materials more than classroom teachers. Respondents from large schools preferred having access to an integrated database more than respondents from small schools. On the other hand, respondents from private schools and urban schools preferred having access to a full-text database more than their counterparts from public schools and rural schools.

5.4 Conclusion

The findings corroborate a view that Australian teachers are dependent on a wide range of commercially available materials, particularly textbooks and supplemental reading materials. The widespread use of teacher-developed materials suggests that teachers recognise deficiencies in commercially available materials, but lack the means to affect improvements in these types of materials. This indicates that materials are an important element in determining the nature of the curriculum in Australian schools. It confirms the need for applying both procedures to trial and revise materials during the developmental phase, and for the full range of materials to be subjected to a sound selection process, so that only those of high quality are used in schools. These measures, however, need to be supplemented by further research, conducted in the Australian context, to investigate the extent to which teachers and students depend on curriculum materials, so that issues relating to the quality of materials and their effects on teaching and learning can be better understood.

The lack of research studies into existing procedures for selecting materials in Australian schools underscores the lack of interest and inadequate understanding that both educators and educational authorities have about what constitutes an organised decision-making process. The findings of the study suggest that the decision-making process for selecting materials in Australian schools is too often governed by informal procedures involving groups and individuals, whose activities are usually uncoordinated. There is clearly a need to apply the knowledge and skills gained from the experience of good practice to specify standards, criteria and guidelines for improving the decision-making process in the selection of curriculum materials for Australian schools. Each school or local administrative unit then needs to comply with stated certification requirements for the particular procedure employed by its selection committee.

The findings of the study suggest, however, that standards for selection committees should contain requirements referring to the exchange of evaluative information concerning materials used in schools across Australia. It is likely that many Australian schools will have a continuing and growing need for information about curriculum resources, especially after the national curriculum framework have been incorporated into curricula implemented by each of the states and territories. The findings of the study, however, indicated that most school personnel, in particular classroom teachers, do not actively seek this information from electronic databases, although printed sources were used frequently. Whilst an electronic service providing information on curriculum materials was identified as a potentially important resource by school personnel, one may conclude that its development is unlikely to be feasible until sound procedures for selecting curriculum materials are implemented requiring the use of this type of service, valid techniques are applied to analyse curriculum materials in terms of the principles of curriculum design, practical and financial constraints inhibiting its potential use in schools are overcome, and more effective and efficient means for providing the service are offered by a national agency.

CHAPTER 6

A STUDY OF STATE-LEVEL POLICIES FOR SELECTING CURRICULUM MATERIALS IN THE UNITED STATES

It has been shown in Chapter 3 that the national curriculum framework is intended to serve as a basis for developing curriculum materials. Curriculum Corporation (1994o) stated that an expressed purpose of the national statements is to provide an agreed basis for national development of curriculum resources for schools, teachers and students. One step towards accomplishing this was taken by the specification of guidelines to assist developers and publishers produce high quality curriculum resources, which are consistent with the national curriculum framework. In practice, providing schools with materials, which will match closely the national curriculum framework, is a more complex issue. Komoski (1985) has shown that the materials' marketplace involves a complex set of interactions between publishers' production and marketing strategies, and users' selection procedures. Therefore, this issue needs to be addressed not only during the developmental phase by specified procedures for developing materials, but also before purchase by procedures for selecting appropriate materials, and extending the process beyond selection to the use of materials in classrooms.

The purpose of this chapter is to determine links between these stages by investigating the evidence presented in research literature and educational practice. Investigation focused on the selection procedures used by state education agencies in the United States for three reasons. First, this variety is likely to provide evidence concerning each of the three forms of selection practice identified in the comparative international study. Second, the extensive research evidence available on the application of selection procedures in the United States is likely to circumscribe the nature of decision-making involved in the selection of curriculum materials. Third, the focus of current research in this area in the United States, directed to improving the decision-making process inherent in selection procedures, is likely to offer guidance for improving procedures for selecting materials in Australia. Such a focus on the United States is supported by the limited data available on selection procedures in Australian settings.

The investigation was conducted by reporting a study, which involved surveying state education agencies in the United States on the procedures currently used to select curriculum materials. The results from this survey are reported in two ways: first, as an analysis of responses received from state education agencies using statewide adoption procedures, presented below; and second, as a series of case studies describing good practices, presented in Chapter 7.

6.1 Research Problem

6.1.1 Research Background

6.1.1.1 Historical Development

Legislation mandating standardised procedures for selecting and adopting curriculum materials arose during the mid-nineteenth century in each state of the United States in response to demands from both educators and the public to regulate uniformity in textbooks used in schools. These procedures were first practised at the local level, but were extended through legislation to the state level during the latter years of the nineteenth century and early years of the twentieth century. Townsend (1891) reported that ten states had applied statewide selection procedures as early as 1883. Tidwell (1928) reported that statewide adoption had extended to 23 states by 1905, but had levelled off to 25 states in 1925. Legislation extending the application of procedures for selecting and adopting curriculum materials to statewide use, was justified on the grounds that textbook costs would be reduced through purchases in volume, textbooks of high quality would more likely be adopted, and that a uniform statewide curriculum could be attained. Only a proportion of states, however, approved the extension of selection and adoption procedures statewide, whilst the remainder retained them at the local level. The balance between the numbers of states applying selection and adoption procedures at either the statewide or local levels has remained relatively equal and constant for many years, with north-eastern and mid-western states generally using local-level adoption procedures, and south-eastern, southern and western states applying statewide adoption procedures.

Tulley and Farr (1990) stated that the significance of this pattern is usually explained as reflecting regional traditions and styles of governance that have been extended to education. Wong and Loveless (1991) concluded that centralised adoption procedures arose from a regional distrust of eastern publishing houses, a desire to ensure adequate supplies of textbooks, and a political environment supporting statewide uniformity in educational systems. More specifically, Apple (1991) argued that statewide adoption procedures arose in the southern states during this period because teachers were perceived to be incompetent and lacked capacity to select suitable textbooks, and publishers were perceived to be greedy and corrupt. Strong, centralised bureaucracies arose in the southern states during the late 1890s and early 1900s to provide the means for regulating the activities of business corporations, protecting weaker elements of the community, providing mechanisms for new groups to participate, and adjusting group differences. Reformers, serving the conservative and moderate vested interests of these bureaucracies, promoted the view that disinterested experts, operating within the public arena, afforded the best opportunity for promoting the general interest. These attitudes led to the formation of elaborate procedures for selecting textbooks, as a means of regulating state educational systems.

6.1.1.2 Studies of Selection Procedures in the States

The existence of a basic structure of procedures for selecting and adopting curriculum materials by 1900 led to several early accounts describing, classifying or analysing the procedures used by state education agencies for selecting and adopting curriculum materials. Coffey (1931) provided the first comprehensive analysis, classifying the prevailing procedures into five types, the former two constituting statewide adoption procedures, the third constituting an intermediate type, and the latter two constituting local-level adoption procedures. State textbook commissions or committees adopted materials in Alabama, Florida, Montana (elementary level only), Oklahoma, Tennessee, Texas, and Utah (urban areas excluded). State boards of education adopted materials in Arizona, Idaho, Indiana, Kansas, Louisiana, North Carolina (elementary level only), South Carolina, and Virginia. State textbook commissions or state boards of education in conjunction with local school boards adopted materials in Arkansas, California, Connecticut, Georgia, Kentucky, Mississippi, Nevada, New Mexico, North Carolina, Oregon, and West Virginia. County boards of education and local school boards adopted materials in Iowa, Georgia, Maryland, Missouri, North Carolina (secondary level only), South Dakota, Washington, and Wisconsin. Local school boards adopted materials in Colorado, Delaware, Illinois, Maine, Massachusetts, Michigan, Minnesota, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, Vermont, and Wyoming. Coffey also presented a detailed analysis of the textbook provisions in the legislations of each state, examining three issues: those governing the adoption of textbooks; those relating to the price for which textbooks were bought and sold; and those relating to the use of textbooks. He found that the adoption authority in statewide adoption states was either elected or appointed, usually included the chief state school officer, and consisted of professional, non-professional and ex officio members. They generally adopted materials for five or six years through a written contract. They always required bonds from publishers, regulated prices, provided a distribution system with provision for depositories, and sometimes operated a state printing service. Coffey found a similar situation prevailed in states of the intermediate type, but that decision-making was more diffused, and that other provisions relating to the purchase and distribution of textbooks were less regulated in states operating local-level adoption procedures.

Lange (1941) reported an analysis of state legislative statutes, which was verified by a survey of state education agencies. He classified existing procedures into four types. Florida, Indiana, Kansas, Kentucky, Louisiana, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, and Virginia employed state control in which legislation authorised the state education agency to select and adopt curriculum materials, usually approving a single list for textbooks and a multiple list for supplementary materials. Alabama, Arizona, Arkansas, California, Georgia, Idaho, Mississippi, Montana, Nevada, Oregon, Texas, Utah, and West Virginia used various combinations of state and district control. Certain school districts were exempted from using the state-adopted lists in six states: Alabama, Idaho, Mississippi, Oregon, Utah, and West Virginia.

Particular subjects were exempted from state adoption in four states: Georgia; Montana; Nevada; and Texas. Open lists of approved textbooks for secondary schools were used in seven states: Arizona, Arkansas, California, Idaho, Montana, Nevada, and West Virginia. In Iowa, Maryland, Missouri, South Dakota, Washington, and Wisconsin, jurisdiction over adoptions was delegated to county boards with provisions for independent selections by certain school districts. Colorado, Connecticut, Delaware, Illinois, Maine, Massachusetts, Michigan, Minnesota, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, Vermont, and Wyoming used a system in which local school districts adopted their own materials. A measure of state control was imposed through the use of open lists in eight of these states: Delaware; Illinois; Michigan; Minnesota; Nebraska; North Dakota; Ohio; and Wyoming. In the remaining ten states, mandatory provisions were not used to control adoptions at the school district level. Lange also reported that thirty states permitted free textbooks to be provided to all or some students, whilst seventeen other states permitted local school districts to provide free textbooks in their schools. Only Oklahoma did not provide mandatory or permissive legislation for free textbooks.

Reporting the findings of a survey of legislation conducted during 1948 and 1949, Burnett (1950) examined five issues: the types of adopting authority; the types of adoption lists; the availability of free textbooks; the sources of funds for textbooks; and the membership of textbook adoption authorities. Burnett reported that 24 states applied policies of statewide adoption, whilst the other 24 states applied local-level adoption procedures, which he grouped into two types. A statewide adoption procedure was applied in Alabama (urban areas excluded), Arizona (elementary level only), Arkansas (elementary level only), California (elementary level only), Delaware (urban areas excluded), Florida, Georgia, Idaho (elementary level only with urban areas excluded), Indiana, Kansas, Kentucky, Louisiana, Nevada (elementary level only), New Mexico, North Carolina, Oklahoma, Oregon (urban areas excluded), South Carolina, Tennessee, Texas, Utah (urban areas excluded), Virginia, and West Virginia (urban areas excluded). The county boards of education adopted materials in Iowa, Maryland, Missouri, South Dakota, and Washington. Local school boards adopted materials in Colorado, Connecticut, Illinois, Maine, Massachusetts, Michigan, Minnesota, Montana, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, Vermont, Wisconsin, and Wyoming. The only change during the previous three decades reported was that Montana had abandoned a statewide adoption procedure for local-level adoption procedures in 1941. Burnett found that adoption lists in statewide procedures usually listed single or several titles, and only rarely allowed selection from available materials. He also found that the provision of free textbooks was almost universal. However, there was no uniformity in funding sources for textbooks with states using state, county, district, or a combination of these sources. Burnett reported that statewide adoption authorities ranged in size from five to thirteen members, who were generally appointed by the state superintendent or the governor, and served for from two to nine years. He found that state textbook commissions and committees contained a higher proportion of professional educators than state boards of education, and it was common for state adoption authorities to appoint sub-committees of professional educators to conduct preliminary reviews.

Writing two years later, Durrance (1952) classified the prevailing procedures into five types, the former two constituting statewide adoption procedures, and the latter three constituting local-level adoption procedures. State textbook commissions adopted materials in Arkansas, Florida, Indiana, Kentucky, Nevada, Oklahoma, Oregon, South Carolina, Tennessee, Utah, and Virginia. State boards of education adopted materials in Alabama, Arizona, Arkansas, California, Delaware, Georgia, Idaho, Kansas, Louisiana, Mississippi, New Mexico, North Carolina, Texas, and West Virginia. County boards of education adopted materials in Iowa, Missouri, Nebraska, New York, and Washington. Local school boards adopted materials in California, Colorado, Illinois, Iowa, Maine, Michigan, Minnesota, Montana, New Hampshire, New Jersey, North Dakota, Ohio, Oklahoma, Pennsylvania, Vermont, Washington, and West Virginia. Local electorates adopted materials in Arkansas, Maryland, Massachusetts, Rhode Island, and Wyoming. He also identified that there was a legal basis for the adoption authority in most states, but in a few it was either semi-legal, non-legal, or ex officio. Durrance reported that adoption authorities were generally composed of a combination of professional and lay people, but that some states had bodies composed or either group only. In some states, advisory bodies of professional educators assisted adoption authorities. He reported that some states required teachers to use approved reference materials as well as using adopted textbooks. On the other hand, he identified that several states had provisions allowing teachers to use non-adopted materials under certain circumstances. Although most states provided adopted textbooks free, a number of states required students to purchase supplementary materials.

The Institute for Educational Development (1969) reported an extensive study of the procedures used in the states for selecting curriculum materials. From an analysis of the statutes of the fifty states, it was identified that from two to eight units at the state, county, district and local levels were involved in the selection process. Statewide adoption states commonly used five units, whilst local-level adoption states usually used only three units. Whilst two-thirds of the important units in statewide adoption states were required to be composed totally or primarily of professional educators, only four local-level adoption states specified this requirement. Statewide adoption states were most likely to have special purpose textbook selection committees as highly involved units, whereas local-level adoption states rested legal authority for selection most frequently with locally elected, general purpose groups. Furthermore, chief state school officers and state boards of education played significant roles in the selection process in statewide adoption states, but only performed general supervisory roles in local-level adoption states. County units were equally important in both statewide and local-level adoption states, but were only predominant in Maryland and South Dakota. There was a marked difference between the roles of local-level units in statewide and local-level adoption states. In the former, the most frequent role involved choosing from lists prepared by state-level units, purchasing and distributing materials, whilst selection was the most frequent role in the latter.

Limitations imposed in state statutes on the selection process were also analysed under three categories: time constraints; procedural constraints imposed on publishers and in other areas; and substantive constraints on the contents of materials. For the first category, it was found that statewide adoption states tended to have longer time spans between adoptions, averaging five years. For the second category, it was found that all statewide adoption states, except two, had some form of procedural constraint on publishers, whereas thirteen local-level adoption states did not specify any procedural constraint on publishers. For the third category, similar proportions of both statewide adoption states and local-level adoption states specified substantive constraints with 27 prohibiting the inclusion of sectarian, denominational or partisan materials, being the most common.

These data were also analysed in terms of six dimensions; whether the selection procedure showed high or low centralisation, administrative complexity, and professionalism, more or less frequent selection, and restrictive or non-restrictive procedural and substantive constraints. The analysis revealed that there was a strong correlation between centralisation and administrative complexity, but a weak correlation between centralisation and professionalism. Relationships also appeared to exist between centralisation and less frequent selection, and less centralisation and lack of statutory specification of a selection period. Moreover, centralised adoption states were almost evenly divided in terms of having restrictive or non-restrictive patterns of procedural constraints, whilst decentralised, local-level adoption states fell more frequently into non-restrictive patterns. Finally, the relationship between non-restrictive substantive constraints was stronger for decentralised, local-level adoption states than for centralised adoption states. When professionalism and administrative complexity were compared, there was a strong correlation between high administrative complexity and low professionalism. There appeared to be no clear relationship between high administrative complexity and patterns of procedural constraints, but low administrative complexity was related to less restrictive procedural constraints. A similar pattern of relationships to the latter emerged in a comparison of substantive constraints and administrative complexity.

The study also provided an analysis of the two fundamental types of procedures used to select and adopt curriculum materials. It was found that the statutes of statewide adoption states differed according to the number and kinds of state-level units required to participate and the relative rigidity of statewide constraints reflected in the length of the adoption period, the numbers of basic curriculum materials selected, the amount of freedom to select supplementary materials locally, and the number and kinds of exceptions provided for local flexibility. Four categories were defined. The rigid statewide adoption states of North Carolina, South Carolina, Virginia, Texas, and Louisiana were characterised by adopting few materials, specifying more stringent enforcement procedures, and providing more comprehensive and detailed regulations for local selections. The moderately restrictive statewide adoption states of Alabama, Florida, Indiana, Mississippi, Tennessee, Oklahoma, and West Virginia had relatively short adoption periods, approved multiple adoptions, and provided for selection of supplementary materials locally. The flexible adoption states of Kentucky, Oregon, Georgia, Kansas, Utah, Nevada, Wyoming and Alaska were characterised by considerable latitude in the selection of supplementary materials, autonomy provided to larger population centres, lack of specification about the numbers of adopted materials, short adoption periods, and greater freedom for the addition of new materials outside the normal adoption cycle. California, New Mexico, Arkansas, and Arizona were termed partial adoption states, because they mandated statewide adoption for the elementary level only, which was generally rigorous, especially in the case of California.

Five categories were determined from an examination of the statutes of local-level adoption states. Ohio, Illinois, Delaware and Michigan required state-level listing of materials adopted locally combined with specified time limits on selection. North Dakota and Rhode Island required state-level listing of materials adopted locally. Iowa, New York, Maine, Maryland, Montana, Washington, and South Dakota specified time periods for selection. New Jersey, Minnesota, Missouri, Wisconsin, and Pennsylvania specified the selection procedures to be followed in detail. Idaho, Massachusetts, Colorado, Connecticut, Nebraska, Vermont, New Hampshire, and Hawaii were classified as laissez-faire, because they had minimal statewide legal requirements.

The examination of state legislation was verified by a survey of state, county, and district participants in the selection procedures used in ten states: California; Connecticut; Florida; Georgia; Indiana; Montana; North Carolina; Ohio; Texas; and Wisconsin. This sample of states represented eight of the nine selection patterns identified from the classification derived from the examination of states' statutes. In addition, two states were added because they deviated from the general pattern geographically or were important consumers of curriculum materials. Data were collected from 401 subjects by an interview schedule administered by project associates in each state. The findings indicated that selections were made in four ways: individual and group selection by teachers in Wisconsin; group selection by teachers in Connecticut and California; group selection by teachers and administrators in Montana, Ohio, Georgia, Texas, Florida and Indiana; and group selection by teachers and administrators or group selection by administrators in North Carolina. Multi-stage procedures were used in all states, except for the multi-level procedure used in North Carolina. Subjects indicated almost complete freedom of choice in Connecticut, Wisconsin, California, Montana, Ohio and Florida with a wide range of choice in the four statewide adoption states of Georgia, Texas, Indiana and North Carolina. Relevance to the curriculum prevailed as the predominant selection criterion in all states, except North Carolina, with cost being the predominant decision criterion in most states. Subjects in most states cited teacher involvement as the most important strength of the selection procedure, but mentioned five main weaknesses: time constraints in Connecticut, California, Montana, and Florida; limits on individual knowledge in Connecticut, Wisconsin, Ohio, and Indiana; insufficient specialised professional advice in California and Texas; insufficient information on products in Ohio and Georgia; and the use of procedures that were too centralised in Georgia and North Carolina.

The perceptions of publishers' representatives about the process for selecting curriculum materials were elicited in the study for four areas: the locus of influence in each state; selection criteria; strategies and tactics of publishers; and constraints, strengths, weaknesses and trends in materials selection procedures. The sample consisted of 19 publishers' representatives, mainly sales managers and salesmen, from 15 different companies or organisations, who responded to a structured instrument and group interviews at informal meetings. Their views of the locus of influence in each state corresponded closely to the formal allocation of decision-making authority contained in state statutes. They viewed factors impinging on specifying relevant criteria for selecting curriculum materials to be whether print or non-print materials were being selected, whether a teacher or administrator was making the selection, and whether the selection was being made at the elementary or secondary levels. They perceived effective marketing strategies to be important influences in the selection process. Although they believed the major constraints on the selection of materials were economic, they viewed the conservatism of many educators as being significant in restricting the selection of innovative materials. They believed the involvement of many kinds of professional educators at many points in the selection process was its greatest strength.

The study concluded that the selection procedures were on the whole decentralised, highly differentiated, and unsystematic. Patterns of selection did not differ greatly between statewide adoption states and local-level adoption states. The systematic differences that were observed seemed to be based on the size of the local school district, whether it was located in an urban, suburban, or rural area, its social and economic characteristics, and the attitudes of school personnel who were influential and involved in selecting materials. Local patterns for selecting different types of materials did not seem to differ, except in rigid statewide adoption states where supplementary and non-print materials were not selected by the same procedures as textbooks. Planned, systematic intervention to change the prevailing processes for selecting materials was perceived to be extremely difficult, because of their complexity, decentralised and unsystematic natures, and dependence on local variations.

Kunder (1976) reported a study presenting the findings from a survey of local-level selection procedures in a sample of 1,275 school districts in 33 states and the District of Columbia. In this study, the states were classified into four categories. Alabama, Arizona, Arkansas, Georgia, Idaho, Indiana, Kentucky, Louisiana, Mississippi, New Mexico, North Carolina, Oklahoma, Oregon, South Carolina, Tennessee, Texas, and Utah used statewide adoption. California and West Virginia used dual selection procedures. Florida, Hawaii, Nevada and Virginia used statewide adoption procedures with local choice from state lists. Alaska, Colorado, Connecticut, Delaware, District of Columbia, Illinois, Iowa, Kansas, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, South Dakota, Vermont, Washington, Wisconsin, and Wyoming used local-level adoption procedures. School districts in the 17 states, defined as using statewide adoption procedures exclusively, were excluded from the sample. 414 school districts, representing 32.4 percent of the sample, responded to the survey.

The findings indicated that 72.7 percent of the responding school districts developed policies for selecting basic curriculum materials, whilst 50.7 percent stated they had policies for selecting supplementary materials. With regard to identifying biases in materials, 66.9 percent stated that their policies contained statements about representing minority ethnic groups and 67.3 percent stated that their policies contained statements to identify sex stereotypes. Of the responding school districts, 66.2 percent stated that they had procedures for meeting challenges to materials. The occurrences of challenges to curriculum materials were also assessed: 26.3 percent stated that there had been recent challenges to basic materials; and 21.5 percent stated that there had been recent challenges to supplementary materials. With regard to the use of evaluative criteria, 61.1 percent stated they used generic criteria for selecting curriculum materials. From 306 school districts in the responding sample that had selection committees, 84.6 percent indicated they had selection criteria and 38.2 percent had procedures for verifying materials prior to their use.

The placement, functions and composition of selection committees of the 306 school districts with selection committees in the responding sample were also analysed in this study. It was found that 22.9 percent functioned as part of general curriculum committees, 72.2 percent operated independently, and 1.6 percent had both a separate selection committee and one that was part of the general curriculum committee. Of this group, 19.6 percent had one district-wide committee, 47.7 percent had separate district-wide committees for elementary and secondary levels, 5.6 percent had committees based on separate school buildings, 13.7 percent had separate subject area or grade level committees, and 10.8 percent used a combination of these types. The function of selection committees in this group also varied: 52.6 percent reviewed and recommended materials to another group or individual for adoption; 27.8 percent reviewed and selected materials subject to approval; 18.6 percent reviewed, selected and approved materials; and 1.5 percent had different functions at the elementary and secondary levels. Of the 246 school districts in which selection committees did not approve materials, it was found that the local school board was responsible for approval in 51.0 percent of cases, the district superintendent in 4.6 percent of cases, the local school board and district superintendent in 2.9 percent of cases, school principals in 6.2 percent of cases, teachers in 3.3 percent of cases, school principals and teachers in 5.9 percent of cases, and other combinations in 6.5 percent of cases. Of the 306 school districts with selection committees in the responding sample, it was found that for 48.7 percent the composition of selection committees was specified by policy or statute, for 14.7 percent the composition of selection committees was not specified but the positions remained the same, and for 36.6 percent the composition of selection committees was not specified and varied with each selection of committee members. Of this group, 63.7 percent of the committees did not specify lengths of time that committee members may serve, whilst 35.3 percent of the committees did specify lengths of time that committee members may serve. In this latter group of 108 committees, 25.9 percent of members served for one year, 33.3 percent of members served for from two to three years, whilst 18.5 percent served until the task was completed.

Selection committees in the 306 school districts were chosen in many ways, but four were predominant: 17.0 percent were appointed by the district superintendent; 16.7 percent were chosen by constituent groups; 10.1 percent were volunteers; and 9.2 percent were chosen by both the district superintendent and constituent groups. Of this group, 42.8 percent of the school districts released administrators from other duties to serve on a selection committees, and 51.3 percent of the school districts released teachers from other duties to serve on selection committees. Of the 306 selection committees, 87.6 percent provided opportunities for publishers to meet with committee members. Of the responding school districts, 74.6 percent had negotiated agreements with teachers concerning participation on selection committees, but only 22.3 percent of this group contained provisions for teacher participation.

Kamhi (1981) reported a study presenting the findings from surveys of two groups: elementary and secondary school administrators and librarians at the school and district administration levels in the fifty states and the District of Columbia; and state-level administrators, who supervised textbook adoptions in the 22 statewide adoption states. The first group consisted of a proportionally stratified nationwide sample of 2,482 principals, 2,498 superintendents, 1,249 school librarians and 1,342 district level library supervisors. A total of 1,891 subjects responded to the survey by completing a questionnaire mailed to them during April and May of 1980. The purpose of the study was to collect data on the procedures and policies followed in selecting curriculum materials, the nature, extent and magnitude of challenges to these materials and selection procedures and policies, the ways in which the challenges were resolved, and the ways in which resolutions affected curriculum content, materials selection, and teaching methodology.

The first group of subjects indicated that selection of curriculum materials presented the following pattern: 50.4 percent stated that basal textbooks were selected by local school districts; 72.7 percent stated that supplementary materials were selected by local school districts; 28.3 percent stated that basal textbooks were selected from state-approved lists; 5.6 percent stated that supplementary materials were selected from state-approved lists; 4.0 percent stated that basal textbooks were selected from county-approved lists; 2.4 percent stated that supplementary materials were selected from county-approved lists; 1.5 percent stated that basal textbooks were selected from city-approved lists; 1.5 percent stated that supplementary materials were selected from city-approved lists; 2.6 percent stated that procedures differed between elementary and secondary levels for selecting basal textbooks; and 4.9 percent stated that procedures differed between elementary and secondary levels for selecting supplementary materials. The subjects indicated that their selection policies were developed and approved at six different levels: 6.9 percent stated that their policies were developed at the state level, and 6.3 percent stated that their policies were approved at the state level; 9.3 percent stated that their policies were developed at the county level, and 9.7 percent stated that their policies were approved at the county level; 3.8 percent stated that their policies were developed at the city level, and 3.6 percent stated that their policies were approved at the city level; 55.3 percent stated that their policies were developed at the school district level, and 64.6 percent stated that their policies were approved at the school district level; 13.1 percent stated that their policies were developed at the school building level, and 8.9 percent stated that their policies were approved at the school building level; and 10.1 percent stated that their policies were developed at the school department level, and 6.0 percent stated that their policies were approved at the school department level.

The administrators in the sample indicated that selection committees in their school districts performed several functions: 32.1 percent stated that they reviewed and recommended materials; 48.3 percent stated that they reviewed and selected materials; and 10.2 percent stated that they reviewed, selected and adopted materials. The administrators in the sample indicated the extent that various groups were permitted to make presentations to selection committees in their school districts: 92.4 percent stated that publishers' representatives were permitted to make presentations to committee members; 57.8 percent stated that special interest groups were permitted to make their views known to committee members; and 59.8 percent stated that their selection committees provided information to the community about controversial materials.

The administrators in the sample indicated that the status of selection policies in their school districts took several forms: 52.8 percent stated that a formal written policy governing the selection of curriculum materials was used; 49.1 percent stated that formal written procedures for resolving challenges to curriculum materials were used; and 53.9 percent stated that formal written procedures for resolving challenges were part of the selection policy statement. The librarians in the sample indicated that the status of selection policies in their school districts took several forms: 74.3 percent stated that a formal written policy governing the selection of curriculum materials was used; 76.8 percent stated that formal written procedures for resolving challenges to curriculum materials were used; and 70.8 percent stated that formal written procedures for resolving challenges were part of the selection policy statement. Although 22.8 percent of subjects indicated that their selection policies contained no references to controversial social content in curriculum materials, the other subjects stated that their selection policies contained references in eight areas: 13.4 percent affirmed references to racism; 13.3 percent affirmed references to religion; 12.5 percent affirmed references to sexism; 12.1 percent affirmed references to minority group representation; 11.9 percent affirmed references to sex and sexuality; 5.2 percent affirmed references to scientific theories; 3.3 percent affirmed references to ageism; and 5.8 percent affirmed references to other issues.

The state-level administrators, who supervised textbook adoptions in the 22 statewide adoption states, indicated that statewide selection was used to adopt basal textbooks for the elementary level in 22 states, basal textbooks for the secondary level in 19 states, supplementary print materials for the elementary level in 11 states, supplementary print materials for the secondary level in 9 states, non-print materials for the elementary level in 8 states, and non-print materials for the secondary level in 5 states. These administrators indicated that statewide selection procedures were conducted in several ways: 8 states had one committee for selecting curriculum materials; 10 states had separate committees for selecting curriculum materials in different subject areas; and 4 states used other ways. They also stated that adoption policies stipulated several conditions: the composition of selection committees was specified in 18 states; publishers' representatives were permitted to make presentations to selection committees in 19 states; special interest groups were permitted to make their views known to selection committees in 14 states; authors, publishers, or producers were permitted to defend materials challenged during the selection process in 12 states; and selection committees provided information to the community on controversial materials in 9 states. They stated that their states' adoption policies contained references to controversial social content: 13 states' policies referred to racism; 10 referred to religion; 13 referred to sexism; 8 referred to minority group representation; 10 referred to sex and sexuality; 4 referred to scientific theories; 7 referred to ageism; and 12 affirmed references to other issues.

Tulley (1983) reported a study of the intents in statewide adoption procedures by conducting content analyses of the statutes, documents and policy statements, and interviews of participants in the 22 statewide adoption states, including an in-depth case study in eight local school districts in Indiana. Subsequently, Tulley (1985) published a synthesis of this research study, and Tulley and Farr (1985) reported the content analysis of the state statutes in terms of 21 categories relating to nine features: adopting authority; committees; curricular responsibilities; selection of adopting authority; composition of adopting authority; specification of adoption cycles and numbers of materials; specified criteria; public participation; and publisher requirements and restrictions.

Tulley argued that the policy impact of statewide textbook adoption procedures was speculative, because of the absence of definitive research findings and the lack of insight into this issue that could be gained from reviews of professional literature and state department of education publications. Improvements to selection and adoption policies were more likely to be soundly based, if the purpose of the study was to inquire into policy intent, efficacy and impact, and it was designed to test hypotheses. The findings indicated that the practice of statewide adoption in the 22 states was based on nine intents: controlling the cost of textbooks, or keeping the cost of textbooks as low as possible; controlling the marketing practices of the publishing industry; providing for public participation in the adoption process; ensuring the periodic review and purchase of textbooks; saving time and work for local school districts; providing structure and organisation for the selection and adoption process; allowing the state the responsibility for potentially controversial materials; ensuring some degree of statewide curricular uniformity; and ensuring the selection of high quality textbooks.

From the analysis of data from all sources, Tulley arrived at four conclusions. First, individuals interviewed expressed a high degree of agreement that particular issues did, or did not, pertain to the intent of statewide adoption procedures. Second, there was also a high degree of agreement that the nine intents pertained to the purpose of statewide adoption procedures. Third, the purpose of statewide adoption procedures was most closely associated with three intents: controlling the cost of textbooks; ensuring curricular uniformity; and ensuring high textbook quality. Fourth, areas of overlap were identified among several of the nine issues. The findings of the study suggested two implications for practice. The first pertained to making individuals involved in the process of statewide adoption more aware of what the procedures were designed to accomplish through explicit statements of intent. The second related to considering alternative practices through which the intents would be achieved more effectively.

Seven improvements to statewide adoption procedures were recommended. Clear, highly specific procedures should be developed and conveyed to participants. Procedures should be instituted to review and select materials that enter the market-place during the adoption cycle, thereby making the process on-going instead of periodic. Guidelines governing marketing practices should be developed for the local level, and be conveyed to participants. Provisions should be implemented to ensure and solicit public participation in statewide adoption procedures. Guidelines should be developed requiring challenges to be directed to state-level adoption authorities, or technical assistance in this area should be provided to local school districts. Procedures should be implemented to control the cost of supplementary as well as basic curriculum materials. A state-level curriculum review should be conducted before instigation of the adoption cycle in order to specify and present evaluation criteria in curriculum guides. Tulley identified four areas for further research. Priority should be given to investigating the three main issues of intent. Research should not isolate issues of intent. Research should take account of differences as well as similarities in practice among the 22 statewide adoption states. Procedures used in local level, open states should be investigated in order to illuminate practice in statewide adoption states.

Duke (1985), who surveyed authorities in the 22 statewide adoption states, found that state textbook commissions or committees selected and recommended textbooks for adoption to the state boards of education in all states, except New Mexico and Nevada. Membership of state adoption authorities varied from 30 members in West Virginia to 6 members in Mississippi, with a mean of 15 and a median of 18.7 among these states. In all cases, members were appointed either by the governor, state board of education, or chief state school officer, and served for a mean of 2.7 years with a median of 3.4 years. The length of the selection process varied from three months to more than a year. To ease the burden, all states applied adoption cycles so that not all subject areas were reviewed at the same time. The number of titles placed on adoption lists varied from a minimum of three to five, to an unlimited number. All states guaranteed public access to materials being considered for adoption, displayed materials in centres open to the public, and held public meetings before adoption. In most cases, the state board of education was responsible for adoption usually at a public meeting, although various voting procedures were used. Adoption periods among these states had a mean of 5.4 years and a median of 5 years. In most cases, adoption lists were not annotated. In all cases, local school districts were required to undertake their own evaluations in order to select materials from a multiple state-adopted list. All states used criteria to select materials, with seventeen applying generic criteria to all materials and fifteen applying subject-specific criteria. Although, twelve states provided training for evaluators ranging from one- to two day sessions, the remaining ten states did not provide any training. In most cases, training did not include the application of the criteria, and in most cases evaluators reviewed materials independently. Most states had strict policies governing the participation of publishers in the adoption process. Twenty-one states permitted publishers to make presentations to the textbook commission members, eight states permitted publishers to pilot materials in schools prior to adoption. Most states built in penalties to the bidding and contract procedures, and for engaging in unethical practices, such as bribery.

Duke concluded that there were seven main areas of concern about the procedures relating to statewide selection and adoption of curriculum materials. The evaluation criteria varied widely, appearing not always to relate to curriculum practice. Training of evaluators in using criteria was lacking. The duplication of effort at the state and local levels questioned the efficiency and effectiveness of the process. State-level reviews lacked uniformity and were often conducted by professionals who were not members of the adoption authority. The translation of evaluators' reviews into votes was unclear in most cases. There was no evidence to support an optimum time for the adoption process, although time was clearly a significant factor. Economic factors seemed to be the major influence upon states maintaining statewide adoption procedures.

In the most recently reported study, Farr et al. (1987b) analysed statutes in each state, interviewed state-level administrators in all states, and surveyed a sample of local school districts to determine if there were differences between local school districts in statewide and local-level adoption states in selecting curriculum materials. The analysis of statutes in the 22 statewide adoption states determined conditions applying to nine categories: adoption authority; selection committees or commissions; curricular responsibilities; selection of adoption authority; adoption cycles and number of adopted materials; public participation; selection criteria; and publisher requirements and restrictions. On the other hand, the content of statutes of the 28 local-level adoption states was discovered to be more diverse, and not similar enough to form clearly defined categories.

The interviews of state-level administrators focused on two issues: textbook prices; and adoption cycles. It was found that state-level textbook administrators in the statewide adoption states commonly held that local school districts in local-level adoption states could not pay less for materials because state-level contracts required prices to be as low as available elsewhere, and that in the absence of state-level controls, prices would be greater than at present. Administrators in every local-level adoption state, except six which applied state-level controls over prices, believed that local school districts were paying as much or more than statewide adoption states, because of the lack of volume purchasing powers and state-level controls. Most state textbook administrators in statewide adoption states believed the local school districts in local-level adoption states were using older materials, because established adoption cycles in statewide adoption states required local school districts to adopt new materials regularly. State-level administrators in local-level adoption states held a different view, however, indicating that local school districts operated voluntary adoption cycles.

The survey was administered to a sample of 550 elementary school principals, each from a different local school district, selected on the basis of population. 303 principals, 55 percent of the sample, responded to the survey, with 159 responses being returned from local school districts in statewide adoption states and 144 responses being returned from local school districts in local-level adoption states. A majority of local school districts in local-level adoption states reported that they required materials to be reviewed regularly, and almost all required materials to be adopted. More than 80 percent of all respondents in both types of systems indicated that adoption cycles running from 5 to 6 years were applied, which supported the view that there was no difference in the currency of materials used in local school districts in statewide and local-level adoption states. On the other hand, 47 percent of respondents from statewide adoption states believed the prices of materials were the same or lower than those offered in local-level adoption states, whilst 41 percent of respondents from local-level adoption states believed the prices of materials were the same or higher than those offered in statewide adoption states. A comparison of actual prices paid in both systems for a particular reading material indicated that prices paid in statewide adoption states were significantly lower than prices paid in local-level adoption states.

Farr et al. concluded that whilst the costs of materials for local school districts in statewide adoption states were significantly lower, there was no significant difference in the length of time local school districts in either system used adopted materials, or in the type of materials used by them. They argued that local school districts in both groups of states achieved the same end, but through different means. They concluded that quality in textbooks and the curriculum could be achieved without a statewide adoption procedure.

6.1.1.3 Studies of Influence by Statewide Adoption States

Researchers have reported evidence that large statewide adoption states, principally California and Texas, influence the development and content of textbooks adopted elsewhere in the United States. Publishers tend to coordinate the development and publication of textbooks to the adoption cycles of these states in an attempt to increase sales and limit competition. Such coordination leads publishers to submit textbooks to these two states at an early stage to give an opportunity for adoption, rejection, or approval, if specified changes are made. Although special editions are occasionally published to meet these states' requirements, usually the altered textbooks are marketed across the United States. Special interest groups, which are able to mount successful challenges in these states, are also likely to influence the content of submitted textbooks. Since Texas' influence on textbook content has been generally more conservative than California's influence, publishers attempt to produce materials which reflect these competing demands. Although the overall impact of these compromises on textbook content is difficult to assess, its effect, often referred to as the 'California effect' or the 'Texas effect', on selection and adoption processes has been widely accepted in publishing and educational circles for many years.

Crane (1975) reported evidence that revisions of textbooks to meet statewide adoption requirements in California were incorporated into editions marketed nationally. Crane argued that the advent of a multiple adoption list in California in 1972 included an option for publishers to make changes to their materials to meet statewide adoption requirements, thereby incorporating such changes into publishers' national editions. Bowler (1978) discussed ways publishers attempted to match the content of their textbooks to the procedures used in statewide adoption states. English (1980) examined the significance of the influence of large statewide adoption states on political considerations in the selection and adoption of curriculum materials, arguing that statewide adoption procedures played a major role in homogenising and sterilising the content of textbooks. Moyer (1985) discussed how conservative interest groups, represented by Mel and Norma Gabler, manipulated the statewide adoption procedure in Texas to influence the coverage of such topics as evolution and human sexuality in science textbooks marketed nationally. Schomburg (1986) discussed how the combination of the statewide adoption procedure, publishers' interests, conservative interest groups represented by the Gablers, affected the selection of textbooks in Texas, and ultimately influenced textbook content nationally. Currey (1988) examined the political aspects of the decision-making process of statewide selection and adoption in Texas, finding that political considerations influenced the content of textbooks publishers submitted for adoption. Sturm and Weiss (1988) challenged the view that the 'Texas effect' influenced the adoption of geography textbooks elsewhere by reviewing and comparing data on adoption lists for geography textbooks in all statewide adoption states, which indicated that the 'Texas effect' was minimal.

6.1.1.4 Studies about the Effects of Education Reforms on Selection Procedures

The need to improve the quality of curriculum materials was first recognised in public and comprehensive terms in the report of the National Commission on Excellence in Education (1983). The Commission reported that many students found the subject matter of textbooks to be too easy, a result of publishers 'writing down' textbooks to lower reading levels so as to meet the readability requirements applied by selection and adoption committees. The Commission also drew attention to the lack of influence that individual teachers exerted on textbook selections. To improve procedures for selecting and adopting curriculum materials, the Commission recommended that publishers should be required to provide data on field tests of their materials, and that committees should adopt materials on the basis of them presenting rigorous and challenging subject matter.

Prompted primarily by the report of the National Commission on Excellence in Education, critics recognised that the accepted procedures for selecting and adopting curriculum materials were fraught with problems that limited their value. Tyson-Bernstein and Woodward (1986) traced these problems to the persistence of regulatory anachronisms, the use of readability formulas, and the promotion by the civil rights movement of equal representation. They recognised that improvements in selecting and adopting curriculum materials would only arise from a national consensus on a reliable procedure.

Only one study appears to have investigated the effects of education reforms on selection and adoption procedures. Tyson (1990) reported a study of the changes to the statewide adoption policies in North Carolina, Texas, and California arising from legislative changes in the context of each state's education reform. In North Carolina, state education administrators designed a centralised decision-making process for materials selection, while the state legislature supported an alternative system based on democratic principles. The statewide procedure in Texas was democratised by allowing the selection of teacher majorities for membership of selection committees. In California, strategies were built into the statewide adoption procedure to permit two-year follow-up adoption opportunities. Tyson concluded that the education reform movement increased confrontation between the advocates of statewide adoption and local responsibility for materials selection. Although each of the three states retained its statewide adoption procedure, state legislatures required decision-making authority to be devolved to the local level.

6.1.2 Statement of the Problem

The evidence presented in the research studies indicates that the procedures, used in the states of the United States, for selecting and adopting curriculum materials have developed and evolved into numerous varieties over a long period of time. The present study had two objectives: first, to gain a comprehensive overview of these procedures in each statewide adoption state of the United States by analysing their main properties; and second, to identify and describe the qualities of a representative group of centralised and decentralised procedures, chosen because they show good practice in the selection of curriculum materials. The intent of the study was to verify a contention that new methods, practices and techniques should be adopted to improve the selection procedures used in Australian contexts.

6.1.3 Research Questions

The study examined nine research questions relating to selection procedures, which reflect closely similar categories identified by Tulley and Farr (1985) from content analyses of the statutes of statewide adoption states. First, it identified the types of curriculum materials subjected to selection and adoption for particular grades, and the length of the selection process. Second, it identified the nature and composition of committees involved in statewide selection of curriculum materials. Third, it determined the extent of training provided to committee members. Fourth, it defined the nature of criteria applied by the committee in selecting curriculum materials. Fifth, it determined the extent of involvement by publishers in the selection process. Sixth, it identified the forms of verification applied to curriculum materials submitted to statewide selection. Seventh, it determined the quota of materials allocated for adoption to each grade in each subject. Eighth, it identified the adoption authority and the length of the adoption cycle. Ninth, it circumscribed the nature of decision-making in selecting curriculum materials provided to local school districts in these statewide adoption systems.

6.2 Results

6.2.1 Questionnaire Analysis

Seventeen of the 22 statewide adoption states responded to the survey. Hawaii was also added to this group, although it is not generally regarded as a statewide adoption state. The remaining five statewide adoption states of Arizona, Georgia, North Carolina, Tennessee and Texas failed to provide returns to the survey. Table 24 presents the results of the analysis of the key stages in the procedures used to select and adopt curriculum materials in each statewide adoption state.

TABLE 24

KEY FEATURES OF THE SELECTION PROCESS APPLIED BY STATE EDUCATION AGENCIES IN THE UNITED STATES USING STATEWIDE PROCEDURES

Agency	Applicability and Length of Selection Process	Type and Composition of Committee	Training and Evaluative Practice of Committee	Publisher Requirements	Materials Verification	Number of Materials and Length of Adoption Cycle	Local-Level Decision Making
Alabama State Dept. of Education	basic curriculum materials for grades K-12, also recommends supplementary materials	statewide committee titled State Textbook Committee consisting of 23 members; always lay people, teachers; sometimes principals, superintendents, & district supervisors	trained once a year by state education agency; State Textbook Committee applies subject-specific criteria developed from curriculum standards	voluntary presentations; sometimes required to provide readability levels & field testing evidence; required to reduce prices to match lowest prices elsewhere; bonds required	always at public hearings, & at 23 public display centres; never by consulting professional associations, nor consulting published evaluations	printed list of 6 titles for each subject in each grade approved by State Textbook Committee & applying for a six-year adoption cycle	school district committees select from multiple state list; some local systems have right to use non-adopted materials
Arkansas Dept. of Education	basic, supplementary and non-print curriculum materials for grades K-12; 8-month statewide selection period	statewide committees titled State Selecting Committees in subject areas consisting each of 9 members; always teachers, usually principals, state dept. subject area specialists, sometimes superintendents, district supervisors	trained twice a year by state education agency; State Selecting Committees apply subject-specific criteria	always required to make presentations; readability levels voluntary; sometimes required to provide field testing evidence; required to reduce prices to match lowest prices elsewhere, voluntary increases in prices	sometimes by pilot testing in schools, and consulting published evaluations	printed list of 8 titles for each subject in each grade approved by State Board of Education and applying for a six-year adoption cycle	school district committees select from multiple state list; 5 districts may petition Director of General Education to use non-adopted materials; districts may petition to use innovative materials

TABLE 24
(continued)

Agency	Applicability and Length of Selection Process	Type and Composition of Committee	Training and Evaluative Practice of Committee	Publisher Requirements	Materials Verification	Number of Materials and Length of Adoption Cycle	Local-Level Decision Making
				once after two years, if approved; maintain 2 depositories			
California Dept. of Education	basic curriculum materials for grades K-8 in 7 subject areas; 12-month statewide selection period	statewide committee titled Curriculum Commission consisting of 17 members advised by Instructional Resources Evaluation Panels (IREPs) for 7 subject areas; each consisting of a number of members determined by the number of materials evaluated; always teachers, sometimes principals, superintendents, district supervisors, & subject area supervisors (IREPs); & by Legal Compliance	IREPs trained once a year by state education agency; LCC is not trained; IREPs apply subject-specific criteria developed from curriculum standards and rating scales; LCC applies generic criteria	voluntary presentations and providing readability levels; required to provide field test-evidence; required to reduce prices to match lowest prices elsewhere; voluntary increases in prices every two years, if approved; substitute editions	always at public hearings, 26 public display centres, & consulting professional associations; never by pilot testing, nor consulting published evaluations	printed, annotated list of unlimited number of titles for each subject in each grade approved by State Board of Education for an eight-year adoption cycle	school district committees select from multiple state list; non-adopted materials can be substituted with approval from State Board of Education

TABLE 24
(continued)

Agency	Applicability and Length of Selection Process	Type and Composition of Committee	Training and Evaluative Practice of Committee	Publisher Requirements	Materials Verification	Number of Materials and Length of Adoption Cycle	Local-Level Decision Making
		Committee (LCC) for all subject areas; always lay people					
Florida Dept. of Education	basic curriculum materials for grades K-12; varies from 7- to 12-month statewide selection period	statewide committees titled State Instructional Materials Committees in subject areas each consisting of 9 members; always lay people, teachers, district supervisors, members of local school boards, sometimes principals	trained once a year by state education agency; State Instructional Materials Committees apply generic criteria	voluntary presentatations; always required to provide readability levels; voluntary field testing evidence; required to reduce prices to match lowest prices elsewhere; voluntary increases in prices once after three years, if approved; bonds required; maintain 2 depositories	always at public hearings; sometimes by pilot testing materials in schools; never at public displays, pilot testing in schools, nor consulting published evaluations	printed, annotated list of 15 titles for each subject in each grade approved by State Board of Education for a six-year adoption cycle	school district committees participate in pre-adoption evaluation to recommend materials to State Instructional Materials Committees; school district committees select from multiple state list
Hawaii Dept. of Education	basic and supplementary curriculum materials for grades K-12	statewide committees titled Subject Area Committees; always state dept. subject specialists,	no training is provided; Subject Area Committees apply generic & subject-specific criteria	voluntary presentatations; sometimes required to provide readability levels; voluntary field testing	sometimes at public hearings, display centres, consulting professional associations, and con-	always a printed multiple list of titles approved by state subject area supervisors	school district committees select from multiple state list; schools may petition district

TABLE 24
(continued)

Agency	Applicability and Length of Selection Process	Type and Composition of Committee	Training and Evaluative Practice of Committee	Publisher Requirements	Materials Verification	Number of Materials and Length of Adoption Cycle	Local-Level Decision Making
		usually teachers & district supervisors, sometimes principals & superintendents		evidence; voluntary increases in prices, if approved	sulting published evaluations; usually pilot testing in schools		or state subject area supervisors to adopt non-adopted materials
Idaho State Dept. of Education	basic and supplementary curriculum materials for grades K-12; 6-month statewide selection period & 4-12 month local selection period	statewide committee titled State Textbook and Improvement of Instruction Committee consisting of 15 members advised by reviewers nominated by Committee members; always lay people, teachers, principals, superintendents, district supervisors, subject area specialists, state board of education members, & representatives of higher	trained once a year by state education agency; reviewers apply generic and subject-specific criteria which are developed from curriculum-related standards	always required to make presentations; sometimes required to provide readability levels; voluntary field-testing evidence; substitute editions	always at public hearings, sometimes at 4 public display centres, consulting professional associations, pilot testing in schools, and consulting published evaluations	printed list of unlimited number of titles for each subject in each grade approved by State Board of Education for a five-year adoption cycle	school district committees select from multiple state list; districts may petition State Textbook and Improvement of Instruction Committee to adopt non-adopted materials, which must be trialled

TABLE 24
(continued)

Agency	Applicability and Length of Selection Process	Type and Composition of Committee	Training and Evaluative Practice of Committee	Publisher Requirements	Materials Verification	Number of Materials and Length of Adoption Cycle	Local-Level Decision Making
		education					
Indiana Dept. of Education	basic curriculum materials for grades 1-12; 10-month statewide selection period & 6-month local selection period	statewide committee titled Advisory Committee on Textbook Adoptions consisting of 7 members advised by reviewers nominated by Committee members; always teachers, principals & district supervisors, sometimes lay people	trained once a year by state education agency; reviewers apply generic criteria which include a component of subject-specific criteria	voluntary presentations, providing readability levels & field testing evidence; required to reduce prices to match lowest prices elsewhere; bonds required; substitute editions	always at public hearings, & at 10 public display centres; never by consulting professional associations, pilot testing in schools, nor consulting published evaluations	printed list of 7 titles for each subject in each grade approved by State Board of Education for a six-year adoption cycle	school district committees select from multiple state list; districts may petition Dept. of Education to adopt no material, or non-adopted material with approval of Advisory Committee on Textbook Adoptions
Kentucky Dept. of Education	basic, supplementary and non-print curriculum materials for grades K-12; 5-month statewide selection period	statewide committee titled State Textbook Commission consisting of 11 members advised by State Textbook Review Teams in 6 subject areas each consisting of 12 members,	trained once a year by state education agency; State Textbook Review Teams and State Instructional Material Review Teams apply both generic and subject-specific criteria	voluntary presentations; always required to present readability levels; voluntary field testing evidence; required to reduce prices to match lowest prices elsewhere; bonds	always at public hearings; sometimes at public display centres, consulting professional associations, and pilot testing in schools; never by consulting published eval-	printed list of unlimited number of titles for each subject in each grade approved by State Textbook Commission for a six-year adoption cycle	schools from primary level to grade 8 formulate 6-year purchasing plans for curriculum materials; all schools select materials from multiple state lists; schools may petition State Board for Element-

TABLE 24
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Agency	Applicability and Length of Selection Process	Type and Composition of Committee	Training and Evaluative Practice of Committee	Publisher Requirements	Materials Verification	Number of Materials and Length of Adoption Cycle	Local-Level Decision Making
		and State Instructional Material Review Teams in 6 subject areas each consisting of 12 members; always teachers lay people, representatives of higher education, sometimes principals, superintendents, & district supervisors		required; substitute editions	uations		ary and Secondary Education to adopt non-adopted materials
Louisiana State Dept. of Education	basic, supplementary and non-print curriculum materials for grades K-12; 6-month statewide selection period & 4-month local selection period	statewide committee titled State Textbook Adoption Committee consisting of 9 members plus 2 alternates, assisted by the Textbook and Media Advisory Council for reviewing procedures and public comments; always	trained once a year by state education agency; State Textbook Adoption Committee applies generic criteria	voluntary presentations; sometimes required to provide readability levels, & field testing evidence; required to reduce prices to match lowest prices elsewhere; substitute editions	always at public hearings, 9 public display centres, by pilot testing in schools; never by consulting professional associations	printed list of 8 titles for each subject in each grade approved by State Board of Elementary and Secondary Education for a seven-year adoption period	school district committees select from multiple state list

TABLE 24
(continued)

Agency	Applicability and Length of Selection Process	Type and Composition of Committee	Training and Evaluative Practice of Committee	Publisher Requirements	Materials Verification	Number of Materials and Length of Adoption Cycle	Local-Level Decision Making
		lay people, teachers, state board of education members and curriculum supervisors					
Mississippi State Dept. of Education	basic, supplementary and non-print curriculum materials for grades K-12; 6-month statewide selection period, and 3-month local selection period	statewide committees titled State Rating Committees in subject areas each consisting of 7 members; always teachers, sometimes lay people, principals, superintendents & district supervisors	trained once a year by state education agency; State Rating Committees apply generic criteria	always required to make presentations; voluntary readability levels & field testing evidence; required to reduce prices to lowest prices elsewhere; substitute editions; maintain 1 depository	always at public hearings for State Rating Committees, and at 19 local textbook hearings; never at public display centres, consulting professional associations, pilot testing in schools, nor by consulting published evaluations	printed list of 8 titles for each subject in each grade approved by State Board of Education for a six-year adoption cycle	school district committees select from multiple state list; 5 districts may petition State Board to use non-adopted materials, districts may petition to use innovative material
Nevada Dept. of Education	basic curriculum materials for grades K-12; 4-month statewide selection period	State Board of Education	no training is provided; State Board of Education applies generic and subject-specific criteria	voluntary presentations & providing field testing evidence; sometimes required to provide readability levels;	usually at public hearings, display centres, & pilot-testing materials in schools; sometimes by consulting	printed list of an unlimited number of titles for each subject in each grade approved by State Board of Education	school district committees participate in textbook evaluation projects to recommend materials to the State

TABLE 24
(continued)

Agency	Applicability and Length of Selection Process	Type and Composition of Committee	Training and Evaluative Practice of Committee	Publisher Requirements	Materials Verification	Number of Materials and Length of Adoption Cycle	Local-Level Decision Making
				required to reduce prices to lowest prices elsewhere	professional associations, published evaluations	for a four-year adoption cycle	Board of Education for adoption; school district committees select from multiple state list
New Mexico State Dept. of Education	basic, supplementary and non-print curriculum materials for grades K-12; 12-month statewide selection period	statewide committee titled Instructional Materials Commission consisting of 20 members; always teachers, principals, district supervisors, state board of education members and lay people, sometimes superintendents, subject area specialists	trained once a year by state education agency; reviewers apply generic criteria	voluntary presentations, providing readability levels, and field testing evidence; required to reduce prices to lowest prices elsewhere	always at public hearings, & at public display centres; usually by consulting professional associations; never by consulting published evaluations	printed list of unlimited number of titles for each subject in each grade approved by State Board of Education for a six-year adoption cycle	school district committees select from multiple state list
Oklahoma State Dept. of Education	basic, supplementary and non-print curriculum materials for grades K-12;	statewide committee titled State Textbook Committee consisting of 13	trained once a year by state education agency; State Textbook	voluntary presentations, providing readability levels, and field testing	always at public hearings, and at 6 public display centres; sometimes	printed list of 10 titles for each subject in each grade approved by State	school district committees select from multiple state list;

TABLE 24
(continued)

Agency	Applicability and Length of Selection Process	Type and Composition of Committee	Training and Evaluative Practice of Committee	Publisher Requirements	Materials Verification	Number of Materials and Length of Adoption Cycle	Local-Level Decision Making
	3-month statewide selection period, and 5-month local selection period	members, advised by reviewers nominated by Committee members; always lay people, teachers, state board of education members, sometimes principals, superintendents, district supervisors	Committee applies generic & subject-specific criteria developed from a set of curriculum-related standards	evidence; required to reduce prices to match lowest price elsewhere; voluntary increases in prices, if approved; bonds required; substitute editions	by consulting professional associations, pilot testing in schools, consulting published evaluations and conducting evaluations	Board of Education for a six-year adoption cycle	residents and publishers may petition State Textbook Committee to adopt innovative materials
Oregon Dept. of Education	basic curriculum materials for grades K-12	statewide committee titled State Textbook Commission of 7 members (suspended 29/9/91 to 1/1/96); State Board of Education (from 29/9/91 to 1/1/96) assisted by Evaluation Committees; teachers, representative of higher education, principals,	trained once a year by state education agency; State Textbook Commission applies subject-specific criteria	voluntary presentations, providing readability levels & field testing evidence; voluntary increase prices once after two years; bonds required; substitute editions; maintain 1 depository	always at public hearings, & public display centres; never by consulting professional associations, pilot testing in schools, nor consulting published evaluations	printed list of an unlimited number of titles for each subject in each grade approved by State Board of Education for a six-year adoption cycle	school district committees select from multiple state list; non-adopted materials can be used with approval of State Board of Education

TABLE 24
(continued)

Agency	Applicability and Length of Selection Process	Type and Composition of Committee	Training and Evaluative Practice of Committee	Publisher Requirements	Materials Verification	Number of Materials and Length of Adoption Cycle	Local-Level Decision Making
		district supervisors, lay people (State Textbook Commission)					
South Carolina Dept. of Education	basic and supplementary curriculum materials for grades 1-12; 7-month statewide selection period	statewide committee titled Instructional Materials Advisory Commit- consisting of 15 members advised by Instructional Materials Review Panels in each subject area with numbers of members determined by state superintendent; Instructional Materials Advisory Committee: 6 teachers, 8 administrators and supervisors, 1 lay person	no training provided; Instructional Materials Advisory Committees apply generic criteria, and subject-specific criteria developed from curriculum standards	always required to make presentations, provide readability levels & adjust prices; sometimes required to provide field testing evidence; required to reduce prices to lowest prices elsewhere; bonds required; substitute editions	always at public hearings & display centres, sometimes consulting professional associations, and published evaluations; never by pilot testing in schools	printed, annotated list of an unlimited number of titles for each subject in each grade approved by State Board of Education for a four-year adoption cycle with two one-year renewal options	school district committees select from multiple state list; a school or school district may petition the State Board of Education to use non-adopted materials
Utah State	basic, supplementary	statewide committee	trained once a	always required	never at public	printed list of un-	school district

TABLE 24
(continued)

Agency	Applicability and Length of Selection Process	Type and Composition of Committee	Training and Evaluative Practice of Committee	Publisher Requirements	Materials Verification	Number of Materials and Length of Adoption Cycle	Local-Level Decision Making
Office of Education	and non-print materials for grades K-12; varies from 10- to 12-month statewide selection period	titled State Textbook Adoption Committee consisting of 8-12 members advised by Subject Area Review Committees in subject areas each consisting of 8-12 members; always teachers, district supervisors, subject area specialists, sometimes principals, superintendents, state board of education members and lay people	year by state education agency; Subject Area Review Committees and State Textbook Adoption Committee apply both generic and subject-specific criteria developed from curriculum standards	to make presentations, provide readability levels & field testing evidence	display centres, nor by pilot testing in schools	limited number of titles for each subject in each grade approved by State Board of Education for a five-year adoption cycle	committees select from multiple state list
Virginia Dept. of Education	basic curriculum materials for grades K-12 in subject areas; 3-month statewide selection	statewide committees titled Textbook Evaluation Committees in subject areas each consisting	trained once every two years by state education agency; Textbook Evaluation Committees apply	voluntary presentations, provide readability levels & field testing evidence; required	always at public hearings; usually at display centres	printed list of unlimited titles for each subject in each grade approved by the State Board of	school district committees select from multiple state list; non-adopted materials can be substituted

TABLE 24
(continued)

Agency	Applicability and Length of Selection Process	Type and Composition of Committee	Training and Evaluative Practice of Committee	Publisher Requirements	Materials Verification	Number of Materials and Length of Adoption Cycle	Local-Level Decision Making
	period & 5-7 month local selection period	of a number of members determined by the number of materials evaluated; always teachers, subject area specialists, usually principals, sometimes lay people	subject-specific criteria developed from curriculum related standards	to reduce prices to match lowest prices elsewhere; voluntary increases in prices every two years, if approved; bonds required; substitute editions; maintain 1 depository		Education for a six-year adoption cycle	if selected by school district committees according to a procedure approved by the State Board of Education
West Virginia Dept. of Education	basic curriculum materials for grades K-12 in 7 subject areas; 7-month statewide selection period & 2-month local selection period	statewide committee titled Textbook Advisory Committee consisting of 30 members; always lay people, teachers; sometimes principals, superintendents, & district supervisors	trained once a year by state education agency; Textbook Advisory Committee applies both generic & subject-specific criteria	always required to make presentations and provide readability levels; sometimes required to provide field testing evidence; required to reduce prices to match lowest prices elsewhere; bonds required; maintain 3 depositories in each county	sometimes by pilot testing in schools, and consulting published evaluations	printed list of 5 titles for each subject in each grade approved by the State Board of Education for a six-year adoption cycle	county boards of education select from multiple state list; non-adopted materials can be substituted with approval from State Board of Education

For the first research question, the analysis showed that 8 states subjected only basic curriculum materials to statewide adoption, 1 state subjected basic curriculum materials to statewide adoption and also recommended supplementary materials, 3 states subjected both basic and supplementary curriculum materials to statewide adoption, and 6 states subjected basic, supplementary and non-print curriculum materials to statewide adoption. The length of the selection processes for the 15 states, which provided this information, varied from 3 months in Oklahoma and Virginia to 12 months in California, Florida, New Mexico and Utah.

For the second research question, the analysis showed that for selecting curriculum materials 2 states used state boards of education, 4 states used full curriculum committees, 3 states used a full curriculum committee supported by advisors independently chosen by committee members, 3 states used full curriculum committees supported by subject-based advisory committees, 5 states used subject based committees, and 1 state used a full curriculum committee supported by subject-based committees and a special committee for evaluating social content. Although the size of full curriculum committees varied from 7 members in Indiana to 30 members in West Virginia with the average being 16 members, the size of subject-based committees was smaller, varying from 7 members in Mississippi to 12 members in Kentucky. The size of subject-based committees in California and Virginia, however, was determined by the numbers of materials submitted for adoption, whilst those in South Carolina was determined by the state superintendent. Generally, the membership of statewide committees represented a cross-section of both educational and lay communities. Teachers were required to be members of statewide selection committees in all states, except Hawaii and Nevada, and lay people were required to be members in 10 states.

For the third research question, it was ascertained that 1 state provided training twice each year to committee members, 13 states provided training once a year to committee members, 1 state provided training once every two years to committee members, and 3 states did not train committee members.

For the fourth research question, the analysis showed that when selecting curriculum materials 4 states applied generic criteria, 2 states applied subject-specific criteria, 4 states applied subject-specific criteria developed from curriculum-related standards, 5 states applied both generic and subject-specific criteria, and 3 states applied both generic and subject-specific criteria, which were developed from curriculum-related standards.

For the fifth research question, it was ascertained that publishers were permitted to make presentations to selection committees or adoption authorities in all states. These presentations were mandatory in 6 states, and voluntary in 12 states. Publishers were always required to provide readability levels to selection committees for submitted materials in 5 states, sometimes required to provide readability levels in 5 states, and voluntarily provide readability levels in 8 states. Publishers were always required to provide field testing evidence to selection committees for submitted materials in 1 state, sometimes required to provide field testing evidence in 5 states, voluntarily provide field testing evidence in 11 states, whilst this information was unavailable for 1 state. After adoption, publishers were required to reduce the prices of materials in 14 states to match the lowest prices in other states. On the other hand, 6 states permitted publishers to increase prices of materials to match changes in the cost of living. Publishers were required to pay performance bonds in 9 states, substitute new editions of adopted materials during the adoption contract in 10 states, and required to maintain depositories in 6 states.

For the sixth research question, the analysis showed that materials were always verified prior to adoption at hearings open to the public in 13 states, materials were usually or sometimes verified by this way in 2 states, whilst this information was not provided by 3 states. Also, materials were always verified before adoption in 8 states through display to the public in centres maintained by the state education agency, materials were usually or sometimes verified by this way in 5 states, whilst 4 states did not provide public displays, and this information was not provided by 1 state. Materials were also verified before adoption in 1 state by consulting state and local affiliates of professional associations, materials were usually or sometimes verified before adoption in 8 states by this way, whilst 8 states did not consult professional associations, and this information was not provided by 1 state. Materials were usually or sometimes verified before adoption in 8 states by pilot testing in schools, whilst 7 states did not verify by pilot testing, and this information was not provided by 3 states. Materials were sometimes verified before adoption in 7 states by consulting published evaluations, whilst 10 states did not verify by consulting published evaluations, and this information was not provided by 1 state.

For the seventh research question, it was found that 8 states specified a particular number of materials that could be adopted for each subject in each grade. These states, which were mainly south-eastern or southern states, varied this number from 5 materials in West Virginia to 15 materials in Florida. On the other hand, 10 states, drawn mainly from western states, permitted unlimited numbers of materials to be adopted for each subject in each grade.

For the eighth research question, it was ascertained that state boards of education formed the adoption authorities in 15 states, the selection committees formed the adoption authorities in 2 states, and this information was not provided by 1 state. The lengths of adoption cycles ran from 4 to 8 years with 2 states operating four-year adoption cycles, 2 states operating five-year adoption cycles, 11 states operating six-year adoption cycles, 1 state operating a seven-year adoption cycle, 1 state operating an eight-year adoption cycle, and 1 state failing to provide this information.

For the ninth research question, it was found that 2 states initiated the selection process at the local school district level. In Florida, school district committees participated in pre-adoption evaluations to recommend submitted materials to State Instructional Materials Committees. In Nevada, school district committees participated in textbook evaluation projects to recommend materials to the State Board of Education for adoption. Local school districts in each of the 18 states selected materials from multiple state lists approved by the adoption authority. Arkansas, California, Hawaii, Idaho, Indiana, Kentucky, Mississippi, Oklahoma, Oregon, South Carolina, Virginia and West Virginia had provisions for local school districts to petition the adoption authority to use non-adopted materials. Alabama permitted particular school districts to select non-adopted materials.

6.2.2 Content Analysis

The purposes of selection and adoption procedures were also identified from documents, usually copies of state legislative statutes and official state department guides, supplied by four respondents. The California State Department of Education (1988a) stated that the purpose of the statewide adoption procedure was the "production of an approved list of instructional materials which meet the educational needs of the students of California, with accompanying information which school districts may use to make selections at the local level". The Florida Department of Education (1993) stated: "Florida's commitment to quality education is demonstrated by the Florida instructional materials adoption process which was created to ensure the selection of quality instructional materials. ... There are many reasons for using a state-level adoption system. Among them are to: 1. ensure quality control of instructional materials used in public schools; 2. increase the equality of instruction for all children regardless of race, sex, or economic level; 3. provide for continuity of instruction across school districts so that the content and style of materials used in all districts are generally comparable; 4. ensure that the instructional materials include appropriate content for mastery of state standards; 5. stabilize the costs of instructional materials while minimizing the effects of inflation; and 6. reduce the time required for the adoption process, conducting it once at the state level, rather than 67 times at district level." The Indiana Department of Education (1993) stated: "The textbook adoption procedures were established to provide local education agencies with a guaranteed price for basal instructional materials and the students of Indiana with the best textbooks available". The Kentucky Department of Education (1989) stated: "The purpose of the state textbook commission is to provide a list of current and high quality textbooks to local school districts, which complement the educational program in Kentucky schools and to provide for public participation in the adoption process".

6.2.3 Respondents' Opinions

Each subject was also requested to specify his or her perceptions of the strengths and weaknesses of the selection and adoption procedure used by the state education agency.

Responses to this item were received from ten state education agencies using statewide adoption procedures. The Coordinator in the State Textbook Office of the Alabama State Department of Education stated: "The strength of an adoption is the choice provided local school systems through a broad, multiple list from which they can choose. We do not try to limit the number of selections they have. If the book meets the course of study and standards for textbook selection, it is recommended. I know of no weakness. The adoption process is far superior to open states". The Coordinator of Instructional Materials for the Arkansas Department of Education stated that the selection and adoption procedure "provides a service to the schools, and saves money". The Staff Services Analyst in the Office of Curriculum Frameworks and Instructional Resources of the California Department of Education stated: "The strength of California's adoption process lies in its high level of public involvement demonstrated by: 1. field reviews of documents; 2. instructional materials display centers throughout the state; 3. public hearings on recommended materials; and 4. meetings of curriculum framework development committees, Curriculum Commission, and State Board of Education widely noticed and open to the public". The Chief in the Bureau of School Improvement and Instruction of the Florida Department of Education stated: "Strengths: 1. selections made by diversified groups; 2. local districts have input into selection process; 3. prices held firm; 4. publishers furnish correlations of their materials to Florida's curriculum frameworks/standards. Weakness: length of adoption may not be appropriate for all subject areas". The Coordinator for Textbook Adoptions of the Indiana Department of Education stated: "The state adoption process locks in a guaranteed price that is the same for all of our school corporations - whether they are large or small. The list also provides teachers with an indication of the best instructional materials for the course". The Administrator in the Bureau of Special Projects of the Louisiana State Department of Education stated: "Strengths: 1. non-educator (lay person) involvement in the total process; 2. use of an evaluation instrument for all titles; 3. inservice training of committee members". The Director in the Division of Teacher Certification and Textbook Procurement of the Mississippi State Department of Education stated: "Textbooks adopted have undergone close review at both the state and local levels prior to selection for subsequent placement in the classroom". The Director of Instructional Programs for Roswell Independent School District, Roswell, New Mexico, stated: "The strength is the wide variety of materials approved for consideration on the local level. Very few materials are screened out. The weakness is that this provides very little guidance to a district". The Coordinator in the State Instructional Materials Services of the Oregon Department of Education stated: "The strength of our system is that the criteria, by which the materials are judged, are prepared primarily by classroom teachers and the people, who evaluate the materials against those criteria, are primarily classroom teachers. By providing at the state level a multiple choice list of adopted materials that have met the criteria to a high degree and that have contracts controlling pricing, a time- and money-saving service is given to the school districts. Some might say that the weakness is lack of academic freedom, but in Oregon the system is not restrictive since local districts are free to adopt materials not on the state-adopted list, if they notify the State Department of Education and the materials meet the Board's criteria". The Curriculum Coordinator for Jordan School District, Sandy, Utah, stated: "Approvals are granted to almost all, no quality statements are made. This results in local agencies reviewing all materials". The Coordinator of Textbook Adoptions of the West Virginia Department of Education stated: "Our goal is to provide a broad listing of textbooks, instructional materials and learning technologies. Counties may choose as many programs as necessary to deliver the curriculum".

Only two subjects responded for state education agencies using local-level adoption procedures. The Chief in the Bureau of Curriculum and Instruction of the Connecticut State Department of Education stated: "Strengths: 1. related to student goals; 2. teachers involved in decision-making; 3. wide variety of materials used; and 4. local needs considered, critical to the decision". The Supervisor for School Library Media Programs in the Office of the Washington Superintendent of Public Instruction stated: "Washington State is a local control state. Each school district selects text and supplemental materials best suited to their needs. Weakness is that there is very little consistency across subject areas and grade levels from one district to another".

6.3 Discussion

The results of the examination of research literature, covering more than sixty years, show that there is evidence to contend that important modifications have occurred in the processes applied in the mandatory procedures used to select and adopt curriculum materials in the states of the United States, in spite of this evidence indicating that the essential features of these procedures have been retained. First, it appears the processes, applied in statewide adoption states, have become more decentralised, because practices have been instituted to widen the participation in selection at the state level, and to afford and extend opportunities for selecting materials at the local level. Second, it seems that a greater number of people from a wider variety of backgrounds are now involved in making selections of curriculum materials. Third, there is evidence that some states have developed selection criteria that are more appropriate to judge quality in curriculum materials, or relate better to the educational process. Fourth, it is clear that the delineation of the procedures in terms of time, organisation and relationships between participant groups, have remained relatively constant throughout this period.

Earlier researchers, notably Coffey, Lange, Burnett and Durrance, based their findings mainly on examinations of legislative provisions rather than the actual workings of groups involved in the selection process, which limits the validity of their findings. Tulley and Farr (1990) concluded that these researchers were primarily concerned with examining the dimensions of centralisation or decentralisation in the decision-making process, the composition of adoption authorities and the delineation of the process, and giving little, if any, attention to examining the criteria used in selections. These limitations place constraints upon drawing inferences from this early body of research literature. It is evident that the findings of more recent research studies are of greater value for analysing the complexity of procedures used by the states to select curriculum materials. The study reported by the Institute for Educational Development appears to be the first to show that the dichotomy between statewide and local-level adoption procedures disguised more important aspects of diversity, which differentiated groups within these two categories. It was found that the major differences between selection patterns resulted from demographic differences and the attitudes of participants in the selection process at the local level. The studies reported by Kunder and Kamhi presented data indicating the complexity and diversity of selection procedures used in local-level adoption states, but failed to identify a typical pattern from these data. The studies reported by Tulley and Duke presented data relating to both the intent of statewide adoption procedures and about the variations between these procedures, indicating that they were maintained mainly to control the cost and quality of materials, and to impose curricular uniformity, but showed significant shortcomings in practice. The study by Farr et al. compared the differences and effects of selection procedures used by local school districts in statewide and local-level adoption states, finding that the only significant effect related to cost. Evidence from another body of research supported the contention that the statewide adoption procedures in the large states of California and Texas influenced the content of curriculum materials, particularly textbooks marketed elsewhere in the United States.

The findings from both the research literature and the survey suggest that both statewide and local level adoption procedures, used by states in the United States for selecting curriculum materials, have inherent weaknesses and strengths. It is apparent that statewide adoption procedures are open to several potential weaknesses. Tyson-Bernstein and Woodward (1991) argued forcefully for dismantling statewide adoption systems, because of five main limitations. First, these centralised systems limit teachers' rights to decide the best materials for their own classrooms. Second, an inherent assumption on which these systems are based, that a small number of bureaucrats far from the actual classrooms can generate appropriate criteria for the range of students within a state, is open to criticism. Third, it is questionable whether there are sufficient funds and time for these officials to apply criteria to select materials suitable for the range of students in all local school districts. This limitation is often minimised by building in a mechanism for local school districts to petition adoption authorities to substitute alternative materials. Fourth, it can be disputed whether states could fund the training of teachers to use new approaches embedded in the curriculum materials adopted by statewide selection systems. Fifth, it is unlikely that statewide procedures insulate the selection process from control by commercial and political pressure groups. This shortcoming is illustrated in the control exerted by creationists over the Curriculum

Commission in California during the 1970s, and by Mel and Norma Gabler over the State Textbook Committee in Texas between 1974 and 1984. The main strengths of statewide adoption procedures appear to be associated with the types of uniformity identified by Tulley, and the potential responsiveness to such changes as education reform.

The main weaknesses of local-level adoption procedures appear to be related to lack of statewide uniformity, such as, controlling the cost of textbooks, controlling the marketing practices of the publishing industry, allowing the state the responsibility for potentially controversial materials, and ensuring some degree of statewide curricular uniformity. On the other hand, the local-level adoption procedures appear to be more responsive to the needs of local educators in selecting materials that meet their students' needs. It is more difficult, however, to provide substantive evidence that local-level adoption procedures are as responsive to change from such effects as education reform, as statewide adoption procedures have been, without some degree of centralised coordination within the state education agency. For instance, the use of a consultant to coordinate the activities of local selection committees, as occurs in the state of Washington, permits the exchange of ideas as a means of fostering improvement in local selection procedures.

6.4 Conclusion

There appear to be important differences between the levels of decision-making ensuing from centralised, statewide adoption procedures and decentralised, local-level adoption procedures. The evidence indicated that decision-making processes in centralised systems are more clearly delineated than in decentralised systems, with specified regulations governing curricular responsibilities, selection and composition of adoption authorities, specification of selection criteria, specification of adoption cycles and numbers of adopted materials, participation of the public, and publisher requirements and restrictions. These provisions, which are not generally prescribed in local-level adoption states, allow for greater variety and flexibility in decision-making.

The evidence presented in Chapter 4 shows that the selection procedures employed in the states and territories of Australia are similar to those investigated in this chapter, although the decision making process is not as clearly defined. Certain features of centralised, statewide procedures for selecting curriculum materials are maintained by state and territory departments of education in Queensland and Western Australia, whilst New South Wales, Victoria, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory maintain more decentralised procedures, based at the local level in each school. On the other hand, the current situation prevailing in the states and territories indicates that accreditation agencies in New South Wales, Victoria, South Australia, Western Australia, Tasmania and the Northern Territory are more restrictive because they publish lists of adopted and recommended materials, whilst accreditation agencies in Queensland and the Australian Capital Territory are nonrestrictive, because they do not adopt or recommend texts. In all states and territories, the final responsibility for selecting curriculum materials, however, lies with individual schools, although their role is restricted to a greater or lesser extent by the effect of state and territory departments of education and accreditation agencies in influencing the selection of the materials used in schools. The findings of the nationwide survey, reported in Chapter 5, indicate that the selection of curriculum materials in schools is most often based in subject departments. In sum, this evidence shows that the procedures occurring between education and accreditation agencies at the state level, and in schools at the local level are conducted independently. They are not linked by a single comprehensive decision-making process for selecting curriculum materials.

It is clear that the practices employed in selection procedures used by state education agencies in the United States could be adapted to improve existing selection procedures used in Australia. Such adaptation is likely to improve the quality of current initiatives in national curriculum collaboration in Australia, particularly if it is linked to a process for revising the national curriculum framework. The characteristics of the decision-making process, identified in this chapter, suggest that appropriate selection procedures could be adapted from American practices to meet national, state and local requirements being established in relation to the national curriculum framework. This topic forms an element discussed in Chapter 9.

CHAPTER 7

CASE STUDIES OF DECISION-MAKING PROCESSES FOR SELECTING CURRICULUM MATERIALS IN THE UNITED STATES

The decision-making process involved in selecting curriculum materials is examined in this chapter through case studies of particular selection procedures. The purpose of the case studies is to elaborate the findings, presented in Chapter 6, with descriptive information. Case studies are presented for three state systems: two statewide adoption states; and one local-level adoption state. In addition, a case study is presented of a private agency, which offers a program to train selection committees in local school districts. Evidence of exemplary practice was the criterion for choosing particular selection procedures for the case studies.

7.1 Research Problem

The examination of research studies and the conduct of survey research, reported in Chapter 6, identified several important variables affecting the selection of curriculum materials, and assessed the extent, nature, frequency and relationships among these variables. Survey method, however, cannot be applied to examine the decision-making process involved in the selection of curriculum materials. The decision-making process involves other aspects, such as the relationship between the curriculum and the selection of materials, the allocation of time and money, the role, membership and training of selection committees, the role of publishers in the selection process, committee evaluation of submitted materials, display and public response to submitted materials, adoption and dissemination of information about recommended materials, collection and distribution of recommended materials, and implementation of materials in classrooms. Application of case study method may illuminate these aspects, because they cannot be easily extracted from the decision-making process nor possess variables, which can be readily manipulated to assess potential causes of behaviours. It was decided that case study method should be applied to examine these aspects in the statewide selection procedures of California and Florida, the local-level selection procedure in Washington, and the training program provided by Connie Muther & Associates.

7.2 Context and Transactions of the State-Level Selection Procedure in California

The state of California maintains the largest public educational system in the United States. It appoints and maintains the eleven-member California State Board of Education, which establishes policies to implement legislation, studies educational conditions, proposes legislation, adopts basic curriculum materials, develops and adopts curriculum frameworks, establishes regulations for the state testing program, oversees school district organisation, approves program plans of the California Department of Education, allocates federal funds, and adopts regulations for the Board's governance. The publicly elected Superintendent of Public Instruction, who serves as secretary and executive officer on the California State Board of Education, is responsible for seeing that its policies are undertaken by the California Department of Education, based in Sacramento. In 1991, the California Department of Education reported that it regulated 1,009 local school districts operating 7,561 schools for more than 5,100,000 pupils.

The California Department of Education is organised into seven branches: Curriculum and Instructional Leadership; Department Management Services; Field Services; Governmental Policy; Legal and Audits; Program Assistance and Compliance; and Specialised Programs. The Curriculum and Instructional Leadership branch maintains within its Curriculum, Instruction and Assessment division the Office of Curriculum Frameworks and Instructional Resources, which administers the development of curriculum frameworks for kindergarten to grade 12 for the California State Board of Education, and the state-level selection and adoption of curriculum materials for kindergarten to grade 8. The Office of Curriculum Frameworks and Instructional Resources accomplishes these activities by working with appropriate divisions, units and offices of the California Department of Education, and also the Curriculum Development and Supplemental Materials Commission.

7.2.1 Curriculum Framework and Materials Adoption Procedure

7.2.1.1 Historical Development

Legislation was first enacted in 1851 requiring the state Superintendent to examine and recommend a uniform series of books. In 1860, the California State Board of Education was empowered to prescribe textbooks for public schools with the first series being recommended in the following year. In 1863, provision was made to deny public funding to schools which did not use the recommended textbooks for arithmetic, geography, grammar and reading. As a result of a challenge before the State Supreme Court in 1875, the California State Board of Education was left with less authority in adoption matters, and in 1879 adoption authority was given to local school boards and county superintendents. In 1884, a constitutional amendment was passed permitting the state printing and distribution of textbooks, and in the following year a law was enacted granting the California State Board of Education power to adopt textbooks, school districts to use alternative materials, and the state Superintendent to supervise state printing of textbooks. In 1887, a ruling was passed denying the exclusion of funds to high schools, and in 1893 high schools were exempted from the requirement to use state-adopted textbooks.

Following the establishment of the California State Department of Education in 1921, attention was given to forming a commission to assist the California State Board of Education with the adoption procedure, then consisting of the adoption of a single text for each subject area, which was printed by the state printer. In 1927, the State Curriculum Commission was given responsibility for selection decisions, and its role was expanded between 1950 and 1968 to include responsibility to recommend curriculum frameworks to the California State Board of Education. From 1970, school districts were granted greater authority in the selection of curriculum materials. In 1972, the procedure was changed to the multiple adoption of five to fifteen basic and supplementary materials for each subject from kindergarten to grade 8. Also, the Curriculum Development and Supplemental Materials Commission, formerly the State Curriculum Commission, was given the role of developing selection criteria, and Learning Resources Display Centres were established. In 1975, the procedure of legal compliance review was established and a six-year adoption cycle was implemented to organise an orderly schedule for each subject area. Following a review of the adoption procedure in 1980, changes were made to four aspects: adoptions of between five and eight basic materials were permitted; the adoption of supplementary materials was discontinued; a six-year adoption cycle without biennial updates was established; and a cash allotment of 20 percent of a district's entitlement was provided for purchasing non-adopted materials. In 1982, a law was passed allowing school districts either to order curriculum materials directly from publishers or to continue to order through the state system.

In 1983, the State Legislature passed a bill requiring a curriculum materials program to be established by mid-1985. The California State Department of Education (1984) reported a review arising from this initiative, which included recommendations for improving the existing program. The report presented recommendations in four areas. It proposed forming a coalition of materials' purchasers to improve quality, developing standards and criteria for evaluating materials, and providing a field verification process for publishers. Second, it recommended improving the administration of the adoption procedure, publicising information on the program, and using computer technology for processing forms and interstate price comparisons. Third, it proposed improving the local selection process by providing evaluative reports to schools and increasing funding to $5,000 for each Learning Resources Display Centre. Fourth, it recommended supporting legislation to provide full funding for purchasing materials for the elementary level, and eliminating purchasing disincentives from the Instructional Materials Fund.

In October 1989, the State Senate passed Senate Bill 594, which included as its main feature a procedure for permitting two-year, follow-up adoption opportunities. Follow-up adoption opportunities, which allow publishers to submit materials every two years rather than only once at the commencement of the adoption cycle, were first implemented into the History-Social Science adoption cycle in 1993. Follow-up adoption opportunities give publishers as much time as required to develop and field-test materials to match the appropriate curriculum framework, rather than one or two years under the primary adoption cycle. Senate Bill 594 also required that seven of the sixteen-member Curriculum Development and Supplemental Materials Commission should be practicing teachers, and imposed more stringent conflict-of-interest provisions on participants in the selection process, following allegations of unethical practices between publishers and education officials (Tyson, 1990).

7.2.1.2 Current Procedure

California uses an integrated process for developing and approving curriculum frameworks, followed by the state-level adoption of curriculum materials to support the principles of the frameworks (California State Department of Education, 1988a; Honig, 1991). The California State Board of Education operates an eight-year adoption cycle, illustrated in Figure 1, for undertaking these two major activities. It appoints a Curriculum Development and Supplemental Materials Commission (Curriculum Commission) to develop and submit curriculum frameworks to it. The Curriculum Commission is organised into subject matter committees for the purpose of developing curriculum frameworks in seven subject areas: English, language arts, and English-as-a-second-language; visual and performing arts; history-social science; foreign languages; science; health; and mathematics.

FIGURE 1

SCHEDULE FOR CURRICULUM FRAMEWORK DEVELOPMENT AND ADOPTION OF INSTRUCTIONAL MATERIALS

Subject	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
English, Language Arts, English-as-a-Second-Language				F	a		A		a		a
Visual and Performing Arts					F	a		A		a	
History-Social Science	A			a*		F a		a	A		a
Foreign Language		A				a	F	a		A	
Science			A		a		a	F	a		A
Health			F**			A		a		F a	
Mathematics		F			A		a		F a		a

Key: A = Primary Adoption; a = Follow-up Adoption Opportunity; F = Year of Framework Completion; * = Pilot for SB 594 Implementation; ** = In 1992, a Physical Education Framework was developed and published.

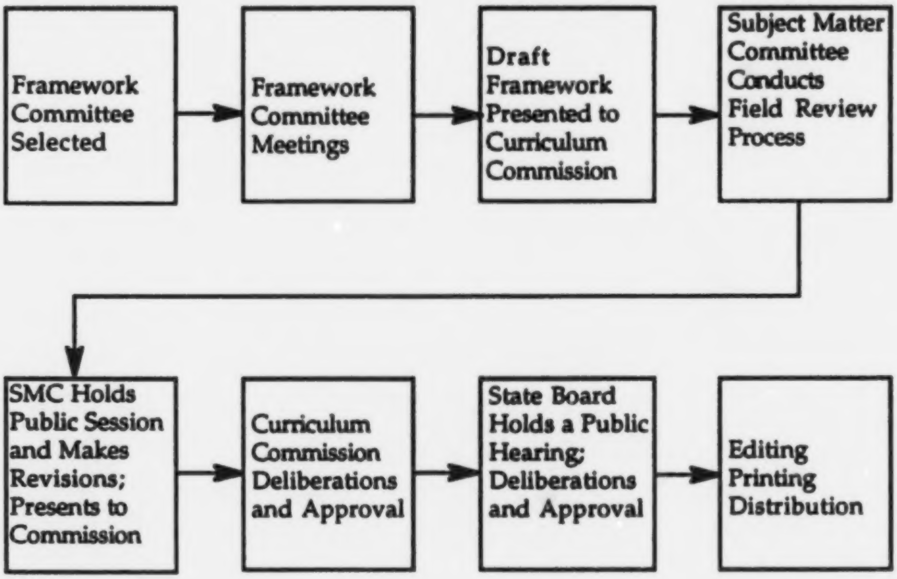
The process for developing and approving a curriculum framework occurs over a period of approximately eighteen months, and involves a sequence of stages illustrated in Figure 2. At the commencement of the cycle in a particular subject area, the appropriate Subject Matter Committee appoints a Curriculum Framework and Criteria Committee composed of classroom teachers, curriculum specialists, higher education personnel, and lay people to advise it on the framework, criteria, educational specifications and matters related to the subject area. The second stage involves the development of the draft framework, including criteria for curriculum materials needed to implement the types of programs recommended in the framework. Meetings of the

Curriculum Framework and Criteria Committee are open to the public, working drafts are made available to interested people, and public comment is received during each meeting. At the conclusion of the process of drafting the framework, the Curriculum Framework and Criteria Committee presents it to the Curriculum Commission. The fourth stage involves a field review of the draft framework conducted by the Subject Matter Committee. The field review involves distribution of the draft framework to a representative sample of teachers, district and county personnel, and members of the public. A period from 45 to 60 or more days elapses for responses. The Subject Matter Committee then takes account of this response by revising the draft framework, before recommending the document to the Curriculum Commission.

FIGURE 2

CURRICULUM FRAMEWORK DEVELOPMENT AND APPROVAL PROCESS

Time Involved: Approximately 18 Months from First Meeting to State Board Approval


Framework Committee Selected
Framework Committee Meetings
Draft Framework Presented to Curriculum Commission
Subject Matter Committee Conducts Field Review Process
SMC Holds Public Session and Makes Revisions; Presents to Commission
Curriculum Commission Deliberations and Approval
State Board Holds a Public Hearing; Deliberations and Approval
Editing Printing Distribution

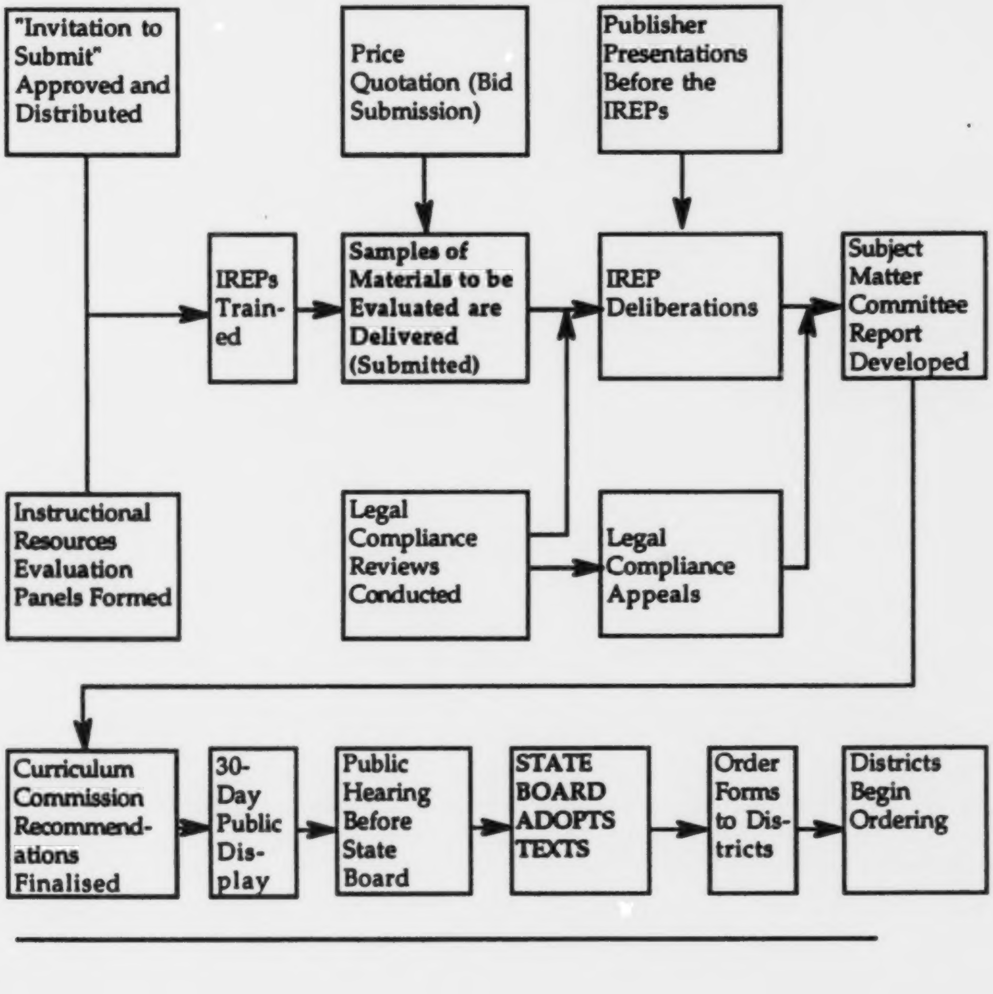
The sixth stage involves the Curriculum Commission holding a public hearing, which operates according to a specified procedure, on the draft framework before it is considered for approval. Following deliberations and approval by the Curriculum Commission, the framework, together with an implementation plan, is sent to the California State Board of Education for approval. At the seventh stage, the California State Board of Education holds a public hearing on the framework and the criteria for evaluating curriculum materials. Once the framework is approved, the Curriculum Commission holds a framework orientation meeting to familiarise publishers and producers with the framework. Editing, printing and distributing copies of the framework to school districts throughout California constitutes the final stage. The process for implementing a curriculum framework includes an evaluation phase in which data on the effectiveness of implementation strategies, the extent to which the framework was used to develop curriculum guides and materials, and the effect of the framework on students' learning are collected for use in developing and implementing a future framework in the same subject area.

The California State Board of Education is responsible for adopting basic curriculum materials used in Californian public schools for teaching the requirements of the adopted curriculum frameworks from kindergarten to grade 8. There is no state-level adoption of curriculum materials used in grades 9 to 12. The process of adopting curriculum materials occurs over a period of approximately twelve months, and involves a sequence of activities illustrated in Figure 3. The basis of the first activity is the distribution of an annual invitation by the California Department of Education to publishers and producers of curriculum materials in subject areas scheduled for adoption. The invitation details the timeline for adoption activities, legal requirements for participation, guidelines for social content, subject area criteria and evaluation instruments, and requirements for display of curriculum materials under consideration. Concurrent with the invitation to submit, the Subject Matter Committee forms a number of Instructional Resources Evaluation Panels, whose size is determined by the volume of submissions. Reflecting the ethnic, gender and geographic diversity of California's population, the Instructional Resources Evaluation Panels consist mainly of curriculum personnel and teachers selected from county offices and school districts on the basis of subject matter expertise. With assistance from the California Department of Education, the Subject Matter Committee arranges orientation and training sessions for members of the Instructional Resources Evaluation Panels, and then presents publishers with a profile of the training process and content.

FIGURE 3

INSTRUCTIONAL MATERIALS ADOPTION PROCESS

This flow chart shows the relationship between the major components of the adoption process. Time Involved: Approximately 6 months are involved from the time of submission of samples to State evaluators to the time districts can begin ordering adopted materials.


"Invitation to Submit" Approved and Distributed
Price Quotation (Bid Submission)
Publisher Presentations Before the IREPs
IREPs Trained
Samples of Materials to be Evaluated are Delivered (Submitted)
IREP Deliberations
Subject Matter Committee Report Developed
Instructional Resources Evaluation Panels Formed
Legal Compliance Reviews Conducted
Legal Compliance Appeals
Curriculum Commission Recommendations Finalised
30-Day Public Display
Public Hearing Before State Board
STATE BOARD ADOPTS TEXTS
Order Forms to Districts
Districts Begin Ordering

Publishers submit lists of all basic curriculum materials to be submitted for selection by a specified date, as well as delivering not more than 150 copies of each material to specified sites for review and display in Learning Resources Display Centres. Publishers are also required to submit price quotation submissions, effective for two years, on Instructional Materials Bid forms provided by the California Department of Education. Publishers and producers are responsible for meeting requirements and costs of transporting and retrieving curriculum materials, as well as ensuring the correct presentation of materials before review. Public display of curriculum materials consists of two phases: the first on receipt following submission until completion of the selection process; and the second for a public display of thirty days prior to the deliberations of the California State Board of Education regarding adoption. The Learning Resources Display Centres serve to advertise and display curriculum materials to the public, provide a resource for groups and individuals involved in the selection and adoption process, provide a resource for school district and county personnel reviewing and evaluating adopted materials for local use, post adoption recommendations and decisions, and receive written comments from the public on proposed adoptions.

The California Department of Education maintains Learning Resources Display Centres at twenty-six geographically dispersed sites throughout California: the Humboldt County Office of Education at Eureka; the California State University at Chico; the Sacramento County Office of Education at Sacramento; the Sonoma County Office of Education at Santa Rosa; the Stanislaus County Department of Education at Modesto; the Fresno County Office of Education at Fresno; the Monterey Peninsula Unified School District at Monterey; the Kern County Superintendent of Schools Office at Bakersfield; the University of California at Santa Barbara; the San Bernardino County Schools Office at San Bernardino; the Los Angeles Unified School District at Los Angeles; the Los Angeles County Office of Education at Downey; the Riverside County Superintendent Schools Office at Riverside; the Orange County Department of Education at Costa Mesa; the San Diego County Office of Education at San Diego; the California State Department of Education at Sacramento; the Contra Costa County Office of Education at Pleasant Hill; the San Francisco Unified School District at San Francisco; the San Mateo County Office of Education at Redwood City; the Merced County Superintendent of Schools Office at Merced; the Inyo County Superintendent of Schools Office at Independence; the Tulare County Department of Education at Visalia; the California Polytechnic State University at San Luis Obispo; the Desert Sands Unified School District at Indio; the Ventura County Office of Education at Camarillo; and the San Jose State University at San Jose.

The process of selecting curriculum materials involves two independent reviews: the first for legal compliance with the state guidelines regarding social content; and the second involving evaluation for factual and technical accuracy, educational content and quality in accordance with the curriculum framework, criteria and evaluation instruments. The review for legal compliance is conducted by the Legal Compliance Committee consisting of volunteers, who are solicited for a period of two years from educational, special interest and civic groups. The volunteers, whose number depends on the workload and response, may form one committee or several smaller committees based in different Learning Resources Display Centres. The Legal Compliance Committee uses an instrument, *Standards for Evaluation of Instructional Materials with Respect to Social Content* (California State Department of Education, 1986), to evaluate each material to determine its compliance where appropriate with thirteen social content requirements: special circumstances applying to particular types of materials in terms of social content; the portrayal of male and female roles; the fair representation of majority and minority ethnic and cultural groups; the depiction of the aging process and participation by older persons; the depiction of participation by disabled persons; the balanced representation of the roles of entrepreneurs and workers; the depiction of the diversity of religious beliefs; the presentation of issues relating to ecology and the environment; the presentation of factual data and realistic values pertaining to dangerous substances; the demonstration of thrift, fire prevention, and humane treatment of animals and persons; the presentation of the Declaration of Independence and the Constitution of the United States; the omission of brand names and corporate logos; and the representation of good nutrition and exercise.

The Legal Compliance Committee may request publishers to modify the social content of materials prior to approval through a two-phase appeals process, involving a First-Level Appeals Panel, consisting of both members of the Legal Compliance Committee and independent members, and a Second-Level Appeals Panel, consisting of members from the State Board. If a material is found not to be compliant, the publisher may appeal this finding or present revisions to the First-Level Appeals Panel, which approves or rejects the material. If the material is rejected, the publisher can appeal again by presenting the initial revisions or subsequent revisions suggested by the First-Level Appeals Panel to the Second-Level Appeals Panel, which terminates this procedure by either approving or rejecting the material. DelFattore (1992) reported that approximately one-third of appeals are granted, usually because the publisher satisfies the appeals panel that the material does comply with the standards, or because the panel finds that a 'special purpose', such as changing attitudes over a period of time, justifies failure to comply. Individual citizens are also permitted to intervene during the processes of first- and second-level appeals either in support or against a finding. Legal compliance approvals apply for eight years.

The evaluation of educational content in curriculum materials is undertaken by Instructional Resources Evaluation Panels. Members of an Instructional Resources Evaluation Panel review the assigned materials independently before meeting together for a period of time for an intensive review of the materials. As part of the evaluative process, publishers are permitted to respond in person before the Instructional Resources Evaluation Panel to weaknesses identified in their publications prior to completion of the evaluative process. Members are divided into working groups, determined by subject matter, to complete a summary evaluation form. The chairperson of the Instructional Resources Evaluation Panel prepares a list of 'recommended' and 'not recommended' materials, which is sent to the Subject Matter Committee. The Subject Matter Committee prepares a justification for each recommendation to be included in the Curriculum Commission's report to the California State Board of Education. The Subject Matter Committee also reviews other comments received as a result of public display. On the basis of its evaluation, the Subject Matter Committee recommends basic curriculum materials for adoption in each grade level for a particular subject area. The recommended list, together with a summary report of the process and findings of the evaluation, and summary evaluations of each recommended material, is sent to the Curriculum Commission.

The Curriculum Commission considers and amends the recommendations, and then votes to approve the list. Those materials approved by the Curriculum Commission are displayed at the Learning Resources Display Centres for a period of thirty days before adoption. The California State Board of Education conducts a public hearing on receipt of the Curriculum Commission's recommendations at which documentary and testimonial evidence is received and considered. The California State Board of Education then considers the recommended list for adoption at its next regularly scheduled meeting. The action of adoption constitutes a formal contract for eight years between the California Department of Education and the publishers of adopted materials. The California Department of Education publishes a Price List and Order Form for adopted materials, which is distributed to each school district, county office and school office in California. Publishers are permitted to revise prices of materials each two years, and an updated price list and order form is distributed. If a publisher submits a new edition of an adopted material for substitution, the Office of Curriculum Frameworks and Instructional Resources verifies its suitability for use and recommends its approval.

The California Department of Education recommends a set of guidelines for local school districts to select curriculum materials. First, the local school board should define the district's curriculum for its schools. Second, evaluative criteria should be developed, based upon local curricular goals, for use in the selection process. Third, a plan for choosing a selection committee should be developed, and the members of the selection committee should be chosen. Fourth, applicants for appointment on selection committees should be required to disclose any conflicts of interest, and a professional code of conduct defining contact with publishers should be developed. Fifth, the district should develop written procedures for selecting and piloting curriculum materials. School districts may request additional information from publishers concerning descriptions of the material and its relationship to the framework, the product development process, the field testing process, and ways the material will be revised on the basis of field testing. Sixth, the district should consider presenting all materials by public display to provide an opportunity for public input. Seventh, opportunities for staff development should be planned. Eighth, the district should define a process for selecting supplementary materials. Ninth, the curriculum and materials under consideration should be explained to parents. Tenth, the district should develop and approve procedures for handling challenges.

The California Department of Education recommends that local school districts include within their selection processes procedures to deal with challenges, which form the last stage in the local-level selection sequence (Thomas, 1990). The recommended procedure involves three steps. First, personnel should be identified to handle challenges. Second, a process should be defined to handle challenged materials. It should include using a complaint form to elicit from the protester the nature of specific objections to the material. Third, alternative courses for the material need to be specified. These courses involve reconsidering the material, placing the material in the school library as a supplemental, not assigning the material to the protester's child, or withdrawing it from all students. The California Department of Education recommends that local school districts should seek advice and resources from the American Library Association, People for the American Way, First Amendment Lawyer's Association, American Civil Liberties Union, and National Council of Teachers of English when dealing with challenges. In addition, the California School Boards Association provides school districts with model policies and administrative regulations for dealing with challenges. Other organisations, such as the California Teachers Association and California Media and Library Educators Association, also provide assistance in dealing with challenges.

School districts purchase curriculum materials for use in their schools from Instructional Materials Funds, grants apportioned by the California state government. Basic curriculum materials can be obtained by local school districts using Instructional Materials Funds by purchasing materials directly from publishers. Local school districts must spend at least 70 percent of Instructional Materials Funds on adopted materials, 25 percent on either non-adopted materials which have passed legal compliance review at the state-level or library books, literature books, atlases and reference materials, and 5 percent on any materials which have passed state or local-level legal compliance review, television and distance learning, tests, and inservice training materials. Furthermore, school districts can petition the Board for approval to spend more than 30 percent of Instructional Materials Funds on non-adopted materials, which have passed legal compliance review but meet better local curricular goals.

7.2.2 Controversy and Censorship

7.2.2.1 Main Issues

Issues of controversy surrounding curriculum materials used in Californian schools have had an important influence on the process of curriculum framework development and materials adoption. In the 1970s, controversy over curriculum materials was dominated by the issue of evolution theory and creationism. However, cases of censorship now represent a wider range of controversial issues brought not only by the organised activities of conservative religious groups of the New Right, but also by radical activists representing minority groups.

The renaissance in creationist activity in the United States was largely sponsored by the Creation Research Society, founded in 1963 by Henry Morris. The success of evolutionists in repealing surviving restrictions against the teaching of evolution during the late 1960s led the creationists to concentrate on seeking 'equal time' for creationist instruction and to presenting evolution as unproven theory. The actions of the Creation Research Society in persuading the California State Board of Education to adopt textbooks, which included creationist explanations, have been reported by several commentators (Wade, 1972; Moore, 1974). Two parents, Jean E. Sumnall and Nell J. Segraves, petitioned the California State Board of Education in 1963 to give 'equal time' to creation in Californian schools. The issue simmered, until in 1969 the State Board considered a science curriculum framework, which was criticised by several Board members for failing to mention creation. Vernon L. Grose, a concerned citizen, submitted objections to the framework, which led to the excision of several passages mentioning evolution. Objections raised by the scientific community to these revisions were overruled. Dispute arose between the State Board and the Curriculum

Commission in 1972 as a result of the selection of textbooks to accompany the framework. The Curriculum Commission rejected several textbooks presenting the creationist perspective, which led the State Board to restore the rejected materials to the adoption list and dissolve the Curriculum Commission. The State Board appointed a new Curriculum Commission consisting of a strong representation from the creationists. Following the public hearing at which evolutionists predominated, the State Board modified its stance by adopting the original list, but required that publishers modify their materials to identify evolution as theory and to present creationist explanations.

In January 1979, Kelly L. Segraves, director of the Creation-Science Research Center in San Diego, filed a complaint in the Superior Court of Sacramento alleging that the State Board had adopted a science curriculum framework, which failed to communicate clearly enough the undogmatic intent of teaching evolution. The state of California assembled almost thirty witnesses, including eminent scientists, to testify to the scientific validity of evolution at a five-day trial held in March 1981. The creationists, however, narrowed the scope of the trial to the consideration of State Board's anti-dogmatism policy adopted in 1972, which required evolution to be discussed in the classrooms of Californian schools as reality and not as the ultimate cause. Judge Irving H. Perluss issued a decision finding that the State Board had not denied the plaintiffs free exercise of religion, but required the State Board to disseminate the anti-dogmatism policy more efficiently (Broad, 1981; Flygare, 1981; Siegel, 1981; Arnstine, 1983). During the 1985 science adoption, creationists and scientists clashed at the public hearings, leading the State Board to reject 20 science textbooks, because their treatment of evolution, ethics and human reproduction was considered too weak (Chemical and Engineering News, 1985; The Economist, 1985). As a consequence, a dozen publishers were required to revise their treatments of these topics in order for their textbooks to be reconsidered by the State Board. In 1989, the State Board attempted to end the anti-dogmatism debate by revising the policy to support evolution by prohibiting creationist dogma. A guideline, drawn up by a panel of experts, requiring evolution to be taught as the only scientific theory of biological origins, and stating that the basis of creationism was religious and not scientific, was only adopted after a concession was made to creationists by deleting a statement inferring that evolution is fact.

The role of radical activists is best illustrated in the controversy relating to textbooks submitted to the history-social science adoption in July 1990, when African Americans, atheists, Chinese Americans, Eastern Europeans, feminists, Hispanics, homosexuals, Jews, Muslims, and Native Americans made presentations at the public hearing conducted by the Curriculum Commission. In examining the influence of special interest groups during the hearing, Kirp (1991) reported that various ethnic activists banded together as Communities United Against Racism in Education (CURE) to attack the Houghton Mifflin series of textbooks as racist and Eurocentric. Following state-level adoption of the Houghton Mifflin series, CURE promised to extend its opposition to local school boards across California. Subsequently, several school districts in urban areas with high proportions of students from ethnic minority backgrounds voted to spend their own funds to buy alternative materials, rather than accept state funds to purchase the Houghton Mifflin texts. One of the most protracted campaigns occurred in the Oakland Unified School District. Representing the ethnic activists, Epstein and Ellis (1992) reported that the school board rejected the Houghton Mifflin series in June 1991, and appointed a committee of college professors, teachers, parents, and ethnic activists to design an alternative curriculum for grades 4, 5 and 7, for which alternative materials were unavailable. Initially the committee approached booksellers and held a book fair to obtain alternative multicultural materials, but later groups of teachers, college professors and student teachers developed alternative programs presenting multicultural and ethnic perspectives. On the other hand, Gross (1991) reported that the district's schools were thrown into chaos by the lack of appropriate materials, disputes occurred between board members representing the contesting groups, and some of the materials developed by the committee were found to be inadequate. The controversy between proponents of the history-social science framework and ethnic activists was highlighted in educational literature, when *Phi Delta Kappan* published a critique of Epstein and Ellis' perspective, in which Berenson (1992) defended the multicultural content of the Houghton Mifflin series. This was followed by a further article in which Ellis and Epstein (1992) defended their position.

Conservative challenges to materials adopted in California have been represented by the controversy surrounding the reading series, *Impressions*, which promotes whole language and multicultural approaches in reading by invoking mystery and imagination associated with folklore. The subject matter in the *Impressions* series has been interpreted by fundamentalist Christian groups as representing satanic influence. The *Impressions* series, which was used in 34 states and 1,500 schools across the United States in the early 1990s, was the most challenged material in American schools, according to data collected by People for the American Way and the American Library Association, indicating 200 challenges between 1990 and 1992 (DelFattore, 1992; Foerstel, 1994). The controversy over *Impressions* began in the 1987-1988 school year in several small communities in Washington and Oregon, where parents claimed the series presented themes on witchcraft and promoted rebellion against adult authority. Challenges soon attracted support from conservative Christian groups, such as Citizens for Excellence in Education, based in Costa Mesa, California, which claimed an organisation of 1,350 chapters across 50 states with a membership of 210,000 parents in 1994, and since 1989 has been actively supporting the election of conservative Christian parents to local school boards (McCarthy, 1993). Cases of challenges to *Impressions* were reported in 22 of some 100 local school districts in California, which had adopted the series, leading to censorship in four of these school districts (Adler and Tellez, 1992; Graves, 1992). Meade (1990) reported a case study of this controversy in Yucaipa, a small city in southern California, through excerpts from interviews with representatives from both sides of the debate finding that the protesters were claiming rights to supervise their children's reading materials. From an analysis of the values of participants from both sides of the controversy in Joshua Gap, a rural town being incorporated into Los Angeles' urban sprawl, Post (1992) found from interviews and a questionnaire survey that the protesters represented recent arrivals from suburban Los Angeles, who were seeking to find and preserve traditional values.

7.2.2.2 Research Findings

In the fall of 1989, the board of directors of the Educational Congress of California, an independent coalition of state professional education associations, initiated a longitudinal study of school districts to investigate the number and types of challenges to curriculum materials and services. Three surveys were administered to all school districts in California in 1990, 1991, and 1993. Adler (1993) reported that responses to each of the three surveys varied; 421 school districts responded in 1990, 379 school districts responded in 1991, and 313 school districts responded in 1993.

In 1991, 55 percent of districts reported challenges, but this increased to 60 percent in 1993. The majority of districts reporting challenges reported multiple challenges, with 57 percent in 1990, 51 percent in 1991, and 55 percent in 1993 indicating more than one challenge. A higher proportion of challenges were reported for elementary schools: 44.5 percent reported challenges in 1990; 60.7 percent reported challenges in 1991; and 44.4 percent reported challenges in 1993. Library books and textbooks were the most frequently challenged types of materials. Specific reports of challenges presented by the respondents indicated that non-adopted materials were more frequently challenged than adopted materials, but that approximately 25 percent of challenges in 1990 and 1993 were directed to materials approved at the state level, or at both the state and local levels. However, the trend in the rate of challenges had slowed over this period, so that the proportion of districts reporting a decrease rose from 8.9 percent in 1990 to 28 percent in 1993, whilst the number reporting an increase fell from 23.3 percent in 1990 to 18 percent in 1993. Religious objections, satanic influence, and erotic subject matter were the most frequently cited reasons for challenges.

In all three surveys, parents constituted the majority of challengers, followed by religious groups. It was found that the majority of challenges were initiated by only one person, and that most were supported in writing or at meetings by ten or less people. In 1993, 35 percent of challenges were supported by organised groups, and 29 percent of challenges included references to arguments or viewpoints developed by individuals or groups from outside the local community. In all surveys, it was found that approximately one-third of challenges were covered by the news media, almost half were discussed in local board meetings, but less than one-third of districts sought legal advice concerning particular challenges. School districts showed a consistent pattern of adapting their procedures to official policies when dealing with challenges, with 77 percent of districts reporting in 1993 that they had a challenge policy, although 9 percent of these districts reported they did not apply their policies to challenges. Half of the districts reported that a district review committee had been formed, usually consisting of teachers, principals and district office staff, but less often librarians, community members and parents.

The proportion of challenges succeeding in removing materials from schools remained consistently low: 12 percent in 1990; 10 percent in 1991; and 11 percent in 1993. A more frequent decision taken by school districts was to continue use of a challenged material, but to excuse the challenger's child from using the material: 29 percent in 1990; 31 percent in 1991; and 25 percent in 1993. More often, however, challenges did not substantially alter the use of challenged materials, with 32 percent of districts in 1990, 37 percent in 1991, and 34 percent in 1993 reporting continued use. Respondents reported that they perceived challengers were becoming less satisfied by decisions with 28 percent expressing satisfaction in 1993 compared to 54 percent in 1990. Most respondents, 94.8 percent in 1991 and 93 percent in 1993, reported reading or hearing about challenges in other districts. In 1991 and 1993, 9 percent of districts reported they would be less likely to adopt materials challenged elsewhere, may not consider materials known to have caused contentious challenges, or would not consider such materials.

7.2.3 History-Social Science Framework and Materials Adoption

The operation of the curriculum framework and materials adoption procedure is well illustrated by the development of the History-Social Science Framework and associated materials adoption in 1990. The planning for the History-Social Science Framework began in January 1986 with the first meeting of the Blue Ribbon Advisory Committee for History Scope and Sequence, which shared its recommendations with the twenty-member History-Social Science Curriculum Framework and Criteria Committee. Meeting monthly for over a year-long period, the History-Social Science Curriculum Framework and Criteria Committee developed the draft framework, submitting it to the Curriculum Commission in January 1987. Following revisions by the Curriculum Commission, 550 copies were distributed to selected teachers, administrators, county superintendents, higher education personnel and educators in other states for a field review. The field review produced more than 1,700 responses, which led to substantial revision and additions to the draft framework. The revised draft was approved by the Curriculum Commission in June 1987, and following additional revision, was adopted by the California State Board of Education in July 1987.

Published by the California State Department of Education (1988b), the *History-Social Science Framework* is intended to attain three broad categories of goals: knowledge and cultural understanding by developing historical literacy, ethical literacy, cultural literacy, geographic literacy, economic literacy, and socio-political literacy; democratic understanding and civic values by developing national identity, constitutional heritage, civic values, rights, and responsibilities; and skills attainment and social participation by developing participation skills, critical thinking skills, and basic study skills. The courses of the *History-Social Science Framework* emphasise seventeen characteristics: the chronological study of history; an integrated approach to the study of history-social science; the importance of history as a well-told story; the importance of enriching the study of history with the use of literature; the introduction of a new curricular approach in the early grades; the importance of studying history in depth; the incorporation of a sequential curriculum; the incorporation of a multicultural perspective; the place of world history in the curriculum; the application of ethical understanding and civic virtue to public affairs; the development of civic and democratic values as part of citizenship; the study of the United States Constitution and Bill of Rights; the accurate presentation of controversial issues; the importance of religion; the inclusion of critical thinking skills; the use of a variety of content-appropriate teaching and learning methods; and the provision of opportunities for students to participate in school and community services.

The *History-Social Science Framework* presents a sequence of thirteen courses from kindergarten to grade 12 entitled Learning and Working Now and Long Ago, A Child's Place in Time and Space, People Who Make a Difference, Continuity and Change, California: A Changing State, United States History and Geography: Making a New Nation, World History and Geography: Ancient Civilisations, World History and Geography: Medieval and Early Modern Times, United States History and Geography: Growth and Conflict, Elective Courses in History-Social Science, World

History, Culture, and Geography: The Modern World, United States History and Geography: Continuity and Change in the Twentieth Century, and Principles of American Democracy (one semester) and Economics (one semester). The *History-Social Science Framework* concludes with a set of Criteria for Evaluating Instructional Materials, serving as both standards for statewide adoption of basic curriculum materials for kindergarten to grade 8 and reviewing curriculum materials for grades 9 to 12. The Criteria are grouped into five sets: fifteen basic guidelines to be applied to all curriculum materials; twelve criteria referring to the organisation of basic curriculum materials; nine criteria to be applied to teachers' manuals and reference materials; four criteria relating to student assessment; and three criteria referring to audiovisual, computer-based and multi-media materials.

The History-Social Science Framework drew extensive critical commentary from the educational community. The *Social Studies Review* devoted two issues, one in 1988 and the other in 1989, to articles examining various aspects of the Framework. Articles in the first issue examined concerns about the development of the Framework (Maxey, 1988), concerns about implementing the Framework (Cardinale, 1988; Oliner, 1988; Wolf, 1988), and to the concerns of students in preservice teacher education (Kronowitz, 1988). Other authors in these two issues discussed the goals of the Framework (Rothblatt, 1988; Lester, 1989), the integration of subject areas within the curriculum presented in the Framework (Berg, 1988; Heath, 1988), the sequencing of the Framework (Honig, 1989), the Framework's appropriateness to grade 7 (Ghilarducci, 1989), the study of particular subject areas (Cueba, 1989; Holtgrieve and Hardwick, 1989; Mead-Mezzetta, 1989), the emphases on primary source documents and literature (Hellenbrand, 1988; O'Brien, 1988; Connet, 1989; Schubert, 1989), and the attention to gender issues (Henry, 1989). Articles published elsewhere focused on the role of the two principal writers of the Framework, Diane Ravitch and Charlotte Crabtree (Evans, 1989; Cheney, 1990b), the three broad goals of the Framework (Alexander and Crabtree, 1988), issues relating to the teaching of history (Dunn, 1990; Wolf, 1990), the treatment of critical thinking (Ahlquist, 1990), gender issues (MacGregor, 1989), the treatment of racism (Girling, 1991), the impact of the Framework for developing textbooks (Ficklen, 1989), a case study of the implementation of the Framework in a high school (Leavey, 1990), the variables in the Framework affecting change in the curriculum (Hanna, 1991), and the potential of the Framework for fostering education reform (Honig, 1988a; Crabtree, 1989).

The *History-Social Science Framework* rendered the available textbooks insufficient to meet the needs of this new curriculum, and although publishers were asked to develop new basic curriculum materials, the response was inadequate. For instance, Brooks (1994) deplored the lack of application of computer-based technology in materials, submitted for the primary adoption in 1990 and the follow-up adoption opportunity in 1993, which indicated that the use of computer-based technology was restricted to reproduction of conventional text and illustrations. The California Department of Education received only twelve materials from nine publishers for submission to the history-social science adoption in 1990 as a result of the invitation to submit issued in October 1989. Of the twelve materials submitted, only Houghton Mifflin Company presented a complete kindergarten to grade 8 program, whilst the other publishers submitted one or two materials designed for particular grades. Samples of the submitted materials were delivered for display to the Learning Resources Display Centres in April 1990. Additional information from publishers, providing descriptions of each of their materials and its relationship to the Framework, the product development process, the field-testing process, and ways the material would be revised on the basis of field testing, was supplied in May 1990.

The adoption process was guided by selection on the basis of three reviews: first for legal compliance; second for educational content; and third by public review. In May 1990, the publishers made presentations to the Instructional Resources Evaluation Panels, and the legal compliance review was completed. Three Instructional Resources Evaluation Panels, consisting of 53 educators, were appointed to select materials for three areas: kindergarten to grade 3; United States history for grades 4, 5, and 8; and world history for grades 6 and 7. Using the criteria for evaluating curriculum materials published within the *History-Social Science Framework*, the Curriculum Commission developed an evaluation instrument consisting of four parts: content of materials; program organisation; teacher manuals and reference materials; and assessment and evaluation. This instrument included indicators to differentiate the quality of materials, developed during meetings in the winter and spring of 1989 at which publishers' representatives participated. Following training sessions during March 1990, panel members applied the instrument to review the submitted materials independently between April and June. The Instructional Resources Evaluation Panels convened late in June, when working parties completed the summary evaluation forms and selected the recommended materials. A consensus report of the three Instructional Resources Evaluation Panels was presented to the Curriculum Commission. The public hearing, conducted by the Curriculum Commission in July, led to several changes in its recommendations, but also indicated controversy surrounding issues of the authority of the Framework, coverage and balance in the treatment of cultural diversity in history textbooks, the nature of historical scholarship, and the proper treatment of religion in history. The Curriculum Commission recommended adopting only two materials: *The Story of America: Beginnings to 1914*, a textbook designed for grade 8, published by Holt, Rinehart & Winston; and *Houghton Mifflin Social Studies*, a textbook series for kindergarten to grade 8, published by Houghton Mifflin Company.

The Curriculum Commission's recommendations, published by the California Department of Education (1990), were adopted by the California State Board of Education in October 1990. The Price List and Order Form for the two adopted materials was distributed to school districts in February 1991. Following the completion of ordering in April 1991, the new materials were delivered to schools before the commencement of the new school year in September 1991.

7.2.4 Conclusion

Since adoption of the History-Social Science Framework, the California State Board of Education has adopted five other curriculum frameworks: the Foreign Language Framework in 1988; the Science Framework in 1989; the Mathematics Framework in 1991; the Health Framework in 1992; and the Physical Education Framework in 1992. These adoptions completed a full cycle of curriculum frameworks, since major education reform was initiated in 1983 with the passage through the California State Legislature of the Hughes-Hart Educational Reform Act (Senate Bill 813), containing more than eighty initiatives.

Honig (1994) reported that the process of reform during the 1980s and 1990s involved four phases: creating a vision of teaching and learning; systemic reform; networks; and most recently, discussion with schools about assisting this kind of change. The first phase concentrated on creating and promulgating a vision for the curriculum. The second phase involved implementing systemic reform in six main areas: defining a core curriculum; aligning textbooks, tests and the curriculum; implementing a comprehensive accountability system; improving teacher professionalism through staff development and a mentor teacher program; improving the leadership skills of school principals; and improving the role of school district leadership in the reform process (Honig, 1985; Honig, 1988b; Schwarz, 1993). The emphasis in curriculum reform then shifted towards implementing the curriculum frameworks at the school level. This shift involved clarifying aspects of the curriculum, identifying issues related to implementation, and meeting censorship challenges. The shift was assisted by reform aimed at increasing community involvement in schools, raising the level of teacher professionalism through the improved quality and availability of staff development, and extending autonomy to teachers. The third phase, involving efforts to link large numbers of schools through support networks organised around strategies for improvement, encompassed initiatives arising from several task force reports, restructuring grants, mathematics and science projects sponsored by the National Science Foundation, and new teacher projects. For example, networking strategies were applied to implement recommendations of the Middle Grade Task Force, following release of its report (California State Department of Education, 1987). Subsequently, the implementation of networks in middle grade Californian schools was analysed in terms of an underlying model (Montle, 1993; Slater, 1993), whilst the outcomes of reforms ensuing from these networks were evaluated (Mitman and Lambert, 1993).

An evaluation of the implementation of systemic reform, conducted by the Policy Analysis for California Education Center, found that virtually all schools implemented the provisions in a manner consistent with state purposes, the legislated reform was effective when integrated into a cohesive strategy at the local level, successful implementation at the local level took several key forms, attention to curriculum reform and the process of school change correlated with improved student achievement, students with special learning needs received increased services, and sample schools engaged in more complex school improvement (Colvin, 1987; Odden and Marsh, 1988). Furthermore, two studies evaluated important issues relating to the link between curriculum development and education reform in California occurring during the second phase. Freeman (1990) reported from a content analysis of documents and interviews with curriculum and policy experts that the California Department of Education was promoting curriculum reform by linking the development of curriculum frameworks, handbooks for local program planning and model curriculum guides with statewide tests, curriculum materials adoption and inservice teacher education. Freeman concluded that the impact of this reform strategy on classroom practice depended largely on achieving success in requiring publishers to develop curriculum materials, which are aligned with the curriculum frameworks. Marsh and Odden (1991) reported a study, intended to validate whether the statewide procedure of curriculum framework development and materials adoption in California had enhanced curriculum reform at the local level. They found that the implementation of the 1984 Science Framework and the 1985 Mathematics Framework was characterised by rapid and positive adoption by schools of the frameworks within the two-year adoption phase, in spite of both frameworks representing major changes in school organisation. Marsh and Odden concluded that state-level policies were congruent and designed to coordinate the policy area for implementation at the local level.

The powerful effect that large statewide adoption states, such as California, exert over the content of textbooks adopted elsewhere in the United States, is likely to be reinforced by the process of education reform, which has led to synchronisation between the cycles for developing curriculum frameworks and adopting curriculum materials. Honig (1991) emphasised the role of improving the quality of curriculum materials in this process of education reform. The importance being given to the link between the curriculum frameworks and the curriculum materials adoption procedure in promoting curriculum reform, may reinforce the influence that California exerts on moving publishers to improve the quality of curriculum materials.

7.3 Context and Transactions of the State-Level Selection Procedure in Florida

The public educational system in Florida is maintained and operated by the Florida State Board of Education and the Florida Department of Education. The Florida State Board of Education is composed of seven publicly elected officials: the Governor, who serves as chairperson; the Commissioner of Agriculture; the Secretary of State; the Commissioner of Insurance and State Treasurer; the Comptroller; the Attorney General; and the Commissioner of Education. The major responsibilities of the Florida State Board of Education include approval of the legislative budget request for educational programs, discussion of topics of interest in the area of education, approval of appointments to boards and councils, approval of administrative rules regarding educational services and programs, approval of major contracts, approval of reports as required by law, approval of educational construction and renovation projects, and receipt, acceptance and adoption of reports or other documents regarding education in Florida.

The Commissioner of Education provides professional leadership and guidance for the state system of public education, and carries out the policies, procedures, and duties authorised by law or by the Florida State Board of Education to attain the purposes and objectives of the School Code, which relates to the funding and operation of all school, college and university systems, as well as special programs, projects and systems under the jurisdiction of the Florida Department of Education. In 1993-94, the Florida Department of Education provided leadership, technical assistance and facilitative services to 67 local school districts operating over 2,700 schools for more than 2,220,000 pupils. It is organised into six main budget entities: Educational Planning, Budgetting and Management; Educational Facilities; the Office of the Assistant Commissioner of Education, which includes the Division of Administration and the Division of Applied Technology and Adult Education; Educational Programs; Human Resource Development; and Community Colleges. Educational Programs maintains the Bureau of School Improvement and Instruction, which administers the state-level selection and adoption of curriculum materials.

7.3.1 Curriculum Materials Adoption Procedure

The Florida Department of Education uses a state-level procedure for selecting and adopting curriculum materials. Although it publicises a tentative schedule, it operates a flexible, six-year adoption cycle, illustrated in Figure 4, for undertaking this procedure in 10 subject areas at the elementary level and 22 subject areas at the secondary level. Each year, the Commissioner of Education determines from contract expirations, curriculum change, and the desires of school districts which subjects will be considered for adoption.

FIGURE 4

TENTATIVE CYCLE FOR THE STATE ADOPTION OF INSTRUCTIONAL MATERIALS

Subject	1993-4	1994-5	1995-6	1996-7	1997-8	1998-9
Agribusiness and Natural Resources Education				A		
Art	A					
Business Education	A				A	
Computer Education		A*				
English for Speakers of Other Languages			A			
Exceptional Student Education		A				
Foreign Languages	A					
Health	A					
Health and Public Service Occupations Education		A				
Home Economics	A				A	
Industrial Education	A				A	
Language Arts		A				A
Literature			A	A		
Marketing Education					A	
Mathematics	A**			A*	A	A
Music				A		
Physical Education						A
Reading			A			
Safety and Driver Education				A		
Science	A*		A*		A*	
Social Studies		A			A	A
Technology Education						A

Key: A = Adoption; * = Four-year adoption; ** = Five-year adoption.

After the specific subjects have been identified, the Florida Department of Education appoints nine-member State Instructional Materials Committees, each consisting of four classroom teachers, two district supervisors, two lay members, and one district school board member, for each subject area at the secondary level, and one or more committees at the elementary level. The Commissioner of Education and the Program Director of Instructional Materials serve on each committee as ex officio members. The membership of each committee must reflect the racial, ethnic, socioeconomic and cultural diversity of Florida's communities. Committee members are selected by the Florida Department of Education for terms of eighteen months from teachers, lay persons, supervisors and school board members nominated by district superintendents, following consultations with various civic and professional associations. Members of State Instructional Materials Committees are required to sign an affidavit before beginning their responsibilities, requiring faithful discharge of duties, no interest in any publishing organisation producing or selling curriculum materials, no connection with the distribution of curriculum materials, and no acceptance of any reward from a publisher intended to influence the adoption process. Violation of these laws can result in employees being removed from school positions, and publishers being banned from conducting business with the public educational system in Florida for one year. The State Instructional Materials Committees carry out five main responsibilities: they meet when called by the Commissioner of Education; they elect a chairperson, a vice-chairperson, and a recorder; they adopt policies and procedures for evaluating curriculum materials; they evaluate curriculum materials according to approved criteria; and they recommend curriculum materials for adoption, and report the findings to the Commissioner of Education.

The business of State Instructional Materials Committees is usually handled in two meetings, which together are permitted to run for 20 days. All meetings are announced publicly through the news media at least two weeks prior to the date of convening. Following the appointment of the State Instructional Materials Committees, a three-day organisational meeting, which is open to the public, is held in Tallahassee during February or March. The various committees meet in joint and individual sessions to receive training in techniques for evaluating curriculum materials, establish policies and procedures for both state-level and district committees, develop course specifications and criteria statements for evaluating and selecting materials, and establish guidelines for publishers to follow in reporting the results of the field-testing process.

Concurrently, the Florida Department of Education invites the 67 local school districts in Florida to participate in pre-adoption evaluations of materials submitted for adoption. Each district superintendent forms a District Instructional Materials Committee, consisting of at least three people, of which at least one-half are teachers and one member is a lay person. Each District Instructional Materials Committee is supervised by a coordinator, who is responsible for organising the committee's activities. In the late spring, representatives from the District Instructional Materials Committees receive training through district summer inservice institutes. Trained personnel are responsible for ensuring that other members are trained.

Before May 15, the Florida Department of Education notifies all publishers of the forthcoming adoption and outlines details for submitting bids by placing an advertisement over a four-week period in a newspaper published in Tallahassee. Publishers are required to submit their bids, together with a bond, by June 15. Publishers are also required to provide written correlations that submitted materials are aligned to the objectives presented in curriculum frameworks for grades 6 to 12 or course student performance standards, minimum student performance standards, and student performance standards of excellence. Instructional materials specifications, detailing information about curriculum frameworks, course descriptions, performance standards, the special nature of curriculum materials, the desired approach to content, appropriate grade levels, and the types of ancillary materials accompanying textbooks, are sent together with the selection criteria to publishers for this purpose two years before bids are due. After all bids have been received from publishers, a list is compiled of the materials to be evaluated in all subjects. Copies of the list are sent to members of the State Instructional Materials Committees, and to the coordinator of each District Instructional Materials Committee. Publishers are required to send copies of samples and relevant information about their materials to individual members of the State Instructional Materials Committees and to District Instructional Materials Committees by July 15.

Members of the State Instructional Materials Committees and District Instructional Materials Committees either review each material individually, evaluating them by applying generic criteria developed and prescribed by the State Instructional Materials Committee, or alternatively use one of several options for dividing labour. They may also acquire assistance from teachers, lay people and higher education personnel for field-testing and reviewing materials. Members of both State Instructional Materials Committees and District Instructional Materials Committees then use an evaluation form, covering criteria on content, presentation, instructional design and classroom use, to rate each material reviewed. State Instructional Materials Committees are required to recommend only materials which comply with six social content requirements: that they portray accurately ethnic, socioeconomic, cultural, and racial diversity; that they present issues relating to ecology and the environment; that they demonstrate thrift, fire prevention, and humane treatment of animals and persons; that they present the Declaration of Independence and the Constitution of the United States; that materials for mathematics, science and computer education are consistent with the Comprehensive Plan for Mathematics, Science and Computer Education; and that they reflect accurately the academic levels of the targeted students.

In the case of District Instructional Materials Committees, the forms are then collected, and individual scores averaged to determine rankings. Through a process of consensus, members of District Instructional Materials Committees rate and rank order all submissions. Each coordinator reports these findings on a summary evaluation form which, together with a computer answer sheet, is submitted to the Florida Department of Education by a specified date during September, October, or November. Evaluation samples are returned by the district's curriculum materials administrator to either the Florida School Book Depository located in Jacksonville or the Southeast Textbook Depository located in Orlando by December 1. The Florida Department of Education compiles district evaluations into a computerised report for submission to the appropriate State Instructional Materials Committee. The report details each district committee's evaluation, rankings, comments, and recommendations for each submission, which are weighted against the district's student population. The report also includes evaluations from professional associations, which are not weighted.

Each State Instructional Materials Committee reconvenes for a second five-day meeting, held in Tallahassee usually between September and mid-January. This meeting, which determines recommendations for adoption from the submitted materials, is used to consider six sources of information. First, committee members compare their independent reviews of the districts' reports. Second, correlation reports are examined to determine publishers' compliance with legal requirements. Third, publishers make oral presentations for specified periods of time. Fourth, special interest groups, professional associations and citizens make oral presentations. Fifth, individual committee members present their evaluations about particular materials, which are important if division of labour was used in the reviewing process. Sixth, the results of pilot studies are considered, if they have been conducted. Committee members discuss information from all sources in making final judgments about each of the submitted materials. Members vote in public for either acceptance or rejection, with a two-thirds majority being required to recommend a material for adoption. A report listing as many as fifteen materials, together with a description of the procedures used in determining the recommendations, is submitted to the Commissioner of Education for adoption.

The Commissioner of Education submits the report to the State Board of Education, which approves the state-adopted list. The action of adoption constitutes a formal contract between the Florida Department of Education and publishers to supply their materials for from four to six years commencing from April 1. At the end of the third year of the contract, publishers may increase their prices in accordance with specified limitations. Contracts may be extended after four years with the agreement of publishers through renewal options for one or two years. The Florida Department of Education sends copies of the state-adopted list to each school district by April 1, and also publishes the *Florida Catalog of State-Adopted Instructional Materials*, which is updated annually following each adoption. The catalogue, which lists all materials on the state-adopted list, presents information on ancillary materials, the approach to content, recommended target grades, suggested teaching time, and available consultant services provided by the publisher or the Florida Department of Education for implementing the material.

Although each school district is required to select curriculum materials from the state-adopted list, their policies and procedures vary for selecting materials. In some districts, evaluations and selections are made at the district level, whilst in others they are made at the school level. Some districts adopt a single basic material whilst others adopt multiple numbers of materials, and others permit schools to select from the entire state-adopted list.

Local school districts purchase curriculum materials for use in their schools from state funds allocated by the Commissioner of Education by July 1. School districts are required to spend 50 percent of the allocation to purchase state-adopted materials, but are permitted to use up to 50 percent of their state funds to purchase curriculum materials, library and reference books, and non-print materials not included on the state-adopted list. District school boards may commence ordering state-adopted materials on March 15 through publishers from either of the two publishers' depositories. The depository prepares orders from requisition forms, and sends the requisitioned materials to the school district superintendent in exchange for payment from allocated state funds.

7.3.2 Learner Verification and Revision

Between 1967 and 1971, Educational Products Information Exchange (EPIE) Institute identified that 99 percent of 200,000 curriculum materials catalogued were not being revised on the basis of feedback gathered from learners. In 1971, EPIE Institute testified to this effect at hearings of the Select Subcommittee on Education of the Committee on Education and Labor of the House of Representatives held to define the role for the proposed National Institute of Education (Komoski, 1971a; Komoski, 1971b). Between 1972 and 1977, EPIE Institute supported legislative efforts in California and Florida to enact requirements for learner verification and revision, formed a National Learner Verification and Revision Task Force in 1974 to specify guidelines, and supported the development of model legislation in Virginia, Michigan, and Maryland.

Educational Products Information Exchange Institute (1980b) reported that Florida's legislation in 1974, calling for learner verification and revision, developed from invited testimony by both EPIE Institute and the Association of American Publishers before the Education Committee of the Florida State Senate. The enacted legislation required publishers and developers of curriculum materials to submit written proof of the use of learner verification and revision both before and after publication. This legislation was bolstered by the Guidelines for Reporting and Assessing LVR Activities, developed by the National Learner Verification and Revision Task Force. In 1975, the State Instructional Materials Councils discussed and approved the guidelines, which they subsequently administered through the statewide selection procedure. Commentators reported that the impact of the legislation was limited, because of the lack of commitment by administrators and opposition from publishers. The guidelines allowed publishers to submit a post-publication plan for learner verification and revision, if they had not subjected a material to learner verification and revision. Vedros (1986) reported that the legislation was strengthened in 1983, making the guidelines enforceable by preventing publishers from submitting post-publication plans as an alternative to learner verification and revision reports. The Florida Department of Education offered training workshops to clarify learner verification and revision instructions for publishers, and to provide interpretation for council members. After enforcement of the new legislation, almost one-fifth of the submitted materials were rejected, because of inadequate learner verification and revision reports. However, the legislation requiring publishers to submit learner verification and revision reports was repealed in 1989.

This legislation required publishers to conduct a four-stage process of learner verification and revision for each edition of a material. First, draft copies of the material were administered to small groups of students. Second, data were collected by observations, interviews, questionnaires and tests during administrations of materials. Third, the data were analysed to produce a list of possible revisions for each material. Fourth, the material was revised.

Publishers were required to present written reports, consisting of four components, which showed they had complied with the guidelines by subjecting their materials to learner verification and revision. The first component, Background Information, identified the publisher and the material. The second component, Intended Learner Outcomes, presented a sample of three goals, two objectives for each goal, and two test items for each objective, so that the alignment between goals, objectives and the means of assessment could be determined. The third component, Prepublication LVR, which described the techniques used to verify and revise the material, consisted of four sections: an overview of the techniques used for learner verification and revision; a description of the data gathering procedures involving, observations, interviews, questionnaires, and tests; a list of instruments together with sample copies; and samples of the material before and after revision.

The fourth component, Planned On-going LVR, described the publisher's plan to continue learner verification and revision with a particular material in the future.

A subcommittee from the State Instructional Materials Councils was formed, and trained to evaluate the reports by applying a checklist to assess the reports submitted by publishers. An unacceptable report, which was not revised satisfactorily, was sufficient to disqualify a material submitted for adoption from further consideration. Dick (1986) reported from a content analysis of a sample drawn from 356 learner verification and revision reports submitted by 42 publishers in 1985 and 1986, that reports made little use of goal statements with objectives and test items, most data were collected from teachers' observations of students in classrooms, and reports had minimised discussion of student testing or other direct measures of text effectiveness. Dick concluded that improvement of student performance was not the driving force behind revisions made to materials.

7.3.3 Training Process

As a consequence of the Interstate Consortium on Instructional Materials, a conference held in Tallahassee in March 1984, the Florida Legislature mandated that members serving on state or district instructional materials committees were required to be trained in the competencies of evaluating and selecting curriculum materials. In response, the Florida Department of Education developed a training program intended to ensure that a rigorous decision-making process would lead to the selection of high quality materials for use in Florida's public schools. Subsequently, Dick et al. (1987) reported that a professional material, consisting of nine modules and a trainer's guide, was developed and evaluated by the Florida Department of Education for inservice training of both state and district selection committee members.

The development of the training program was overseen by departmental officers of the Instructional Support Services Section of the Bureau of School Improvement and Instruction. It was initiated by a meeting with a group of national experts in the field of curriculum materials selection in December 1984, when a list of twelve essential topics in the training of selection committee members was produced. The Florida State University at Tallahassee was contracted to develop the training materials, and the local firm, Evaluation Systems Design, was sub-contracted to assist in the design of the training program. The draft materials were trialled by members of the State Instructional Materials Committees and critiqued by a panel of educators. The firm, TRIADD of North America, contracted to undertake revisions of the training materials, also developed a videotape and slides to accompany the program in the fall of 1985. Final revisions of the program, including three slide-tape presentations, were completed by Evaluation Systems Design in November 1986. Subsequent revisions to the program have been made to reflect changes in the state statutes since 1986.

The current edition, published by the Florida Department of Education (1993), presents the training program through nine modules titled the Florida Adoption Process, Developing Instructional Materials Specifications, Characteristics of Effective Instructional Materials, Developing Criteria, Applying Criteria, Combining Data in Selecting Effective Materials, Evaluating Electronic Media, State-of-the-Art Summary Information in Selected Subject Areas, and Trainer's Guide. The program is designed for training state and district committee members, either in groups or individually over a duration of eight to ten hours. The portion of the training program, referring to the selection procedure, is covered in the first six modules, which are reviewed below.

The program begins in the first module with an overview of the selection procedure in Florida, aimed at making participants familiar with the purpose, organisation and functions of State Instructional Materials Committees and District Instructional Materials Committees, the participation of publishers, the role of the Florida Department of Education, and the legal restrictions imposed on the selection procedure.

The second module examines the development of bid specifications for curriculum materials. Participants are shown that specifications cover seven areas: first, they state intended outcomes of curriculum frameworks, course descriptions and performance standards that curriculum materials should meet; second, the special nature of basic curriculum materials required for a course are specified; third, the specific approach to content is defined; fourth, the grade levels for which curriculum materials are designed and the course taught are specified; fifth, the range of supporting materials that can be used with particular basic curriculum materials are specified; sixth, the applicable standards and frameworks for publishers to specify correlations for matching their materials with curriculum objectives are stated; and seventh, any other information that will be helpful to publishers and evaluators is stated.

The third module aims to make participants competent in identifying the characteristics of effective curriculum materials. They are informed that these characteristics may be grouped into four categories: content; presentation; instructional design; and classroom use. Effective content in curriculum materials is determined by criteria of comprehensiveness, currency, accuracy, and appropriate treatment of social issues. Presentation relates to readability, writing style, and text format of curriculum materials. The instructional design of curriculum materials is affected by three factors: the alignment between the instructional elements of the objectives, instruction, and test items; their effective design in terms of gaining learners' attention, informing learners about what will be learned, stimulating recall of previously learned skills, presenting material in a logical and correct sequence, providing guidance through the use of prompts, providing practice and feedback, and providing long-term retention of lessons; and revision following verification with learners. Classroom use pertains to the characteristics of quality in ancillary materials, compatibility of materials with teaching conditions, and their demonstrated effectiveness in use with students.

The fourth module prepares participants for their roles as members of a criteria development group on a State Instructional Materials Committee by making them competent in developing and judging selection criteria. They are informed about three elements of a criterion: a criterion statement, which names the object to be valued and the judgment to be made; indicators, statements which specify the relevant aspects of the criterion to be judged; and a rating scale, which is a measure to judge the degree to which the criterion is met. They are shown that the initial stage in developing a criterion is to follow five guidelines: identify only one characteristic in the criterion; keep the criterion statements simple and pertinent; exclude qualitative phrases for measuring the degree to which the characteristics are reflected in the materials; write in positive terms; and indicate which of the criteria are required legally. The next stage is to develop three or four indicators by following three guidelines: maintain objectivity; use specific verbs; and develop an indicator as a measure of a specific attribute of the characteristic. At the third stage, it is recommended that a five-point scale is most applicable for developing a rating scale to measure compliance with each criterion. The criteria are then converted to form an evaluation form, which consists of five components: criteria; weightings; a comment section; a ranking; and a certification statement.

The fifth module presents methods for applying criteria. It recommends the use of eight methods: reviewing purposefully selected passages; reviewing randomly selected passages; reviewing illustrations; conducting an alignment check; checking the readability level and other information provided by the publisher; implementing lessons with students; contacting schools that have used the material; and contacting experts. Particular methods are recommended to participants for applying criteria in each of the four categories. For content, comprehensiveness should be determined by the match between passages in the material and the appropriate curriculum framework, currency and accuracy should be determined by examining passages in the material, and the appropriate treatment of social issues should be determined by contacting teachers who have used the material and examining passages in the material. For presentation, readability should be assessed by using a combination of several text-based formulas (Dale-Chall Formula, Flesch's Reading Ease Scale, Gunning's FOG Index, Bormuth Formula, and Degrees of Reading Power) and reader text-based formulas (Clark's Phrase Analysis Technique, and Cloze Procedure), as well as contacting teachers who have used the material, implementing the material with intended learners, and consulting a content expert. Writing style should be determined by contacting teachers who have used the material, examining passages in the material, and implementing the material with intended learners. Text format should be determined by examining passages, and consulting a content expert. For instructional design, the alignment of the instructional components should be tested by conducting an alignment check, comparing content and objectives, comparing test items and objectives, comparing test items and content, and consulting a content expert. Effective design should be determined by contacting teachers who have used the material, examining passages, conducting a skills analysis, and consulting a content expert. For classroom use, the quality of ancillary materials should be assessed by contacting teachers who have used the material, reviewing the teacher's edition, and conducting an alignment check. Compatibility of materials with teaching conditions should be determined by examining publisher's information, assessing school environments, and contacting curriculum and inservice training specialists in schools, whilst the material's effectiveness with students should be determined by contacting teachers who have used the material, and implementing it with teachers.

The sixth module aims to present participants with the procedures used by district committee members in combining data to form rankings of submitted materials, and state committee members in using district results and other information to select and recommend materials. It demonstrates how the district's decision-making process combines data from six steps: combining ratings by categories for each submitted material; calculating the mean or average score for each category; applying weightings to the average rating; combining the weighted ratings from the categories to calculate a total weighted score for the submitted materials; rank ordering the evaluated submissions using the final ratings of each submitted material; and recording additional comments about the submitted materials. It also demonstrates how the state-level decision-making process combines information from six sources: district reviews; individual state committee members' judgments; results of pilot studies or trials in other districts; correlation reports; presentations by publishers; and public and professional comments. It discusses the process that follows involving reviewing ratings, group discussion, making the final decision, voting and reporting.

7.3.4 Controversy and Censorship

Although no cases involving censorship of state-adopted materials have been reported in Florida, several cases have been reported of superintendents and school principals banning literary texts from classrooms and school libraries during the 1980s (Kister, 1989; DelFattore, 1992). Widely publicised censorship cases at a town near Panama City in northwestern Florida between 1985 and 1988, and at Columbia in northern Florida between 1986 and 1989 were typical of incidents involving mainly school districts, which had experienced rapid population growth and dislocation.

Scheuerer and Parkay (1991) reported a survey of chief instructional program supervisors in each of the 67 school districts in Florida, finding that 47 of 59 respondents had experienced complaints during the time of the survey, 22 respondents perceived fundamentalist religious groups were responsible for these complaints, library books and textbooks were most frequently targeted for complaints, respondents' knowledge of fundamentalist religious groups varied, and their attitudes towards such groups were neutral. Most respondents indicated that policies, inservice training and review committees had been established to deal with complaints, and almost one-third of the respondents reported that curriculum materials had been removed as a result of complaints. Together with corroboration from research literature, this evidence suggested that Florida has one of the highest incidence of reported censorship among the states. Scheuerer and Parkay concluded that fundamentalist religious groups were reacting to Florida's increasing pluralism by exerting pressure to remove materials depicting life styles they considered to be objectionable.

7.4 Context and Transactions of the Local-Level Selection Procedures in Washington

The public educational system in the state of Washington consists of the Washington State Board of Education and the Office of the Superintendent of Public Instruction. The eighteen-member Washington State Board of Education establishes standards for teacher certification, approves teacher education programs, allocates state assistance for school programs, approves education programs for school districts, and accredits schools and graduation requirements. The publicly elected Superintendent of Public Instruction, who serves as the chief executive officer on the State Board of Education, is responsible for collecting data on schools, securing laws and appropriations, apportioning and distributing funds to school districts, providing technical assistance in financial and curricular matters to educational service districts and school districts, issuing teacher certificates, and promoting goals for educational improvement through the Office of the

Superintendent of Public Instruction, based in Olympia.

The State of Washington regulates 296 local school districts, which receive services from nine educational service districts with offices based in Spokane, Yakima, Vancouver, Olympia, Bremerton, Seattle, Walla Walla, Wenatchee, and Mount Vernon. Each local school district is governed by a publicly elected, five-member board of directors, and managed by a district superintendent. The public educational system in Washington operates almost 1,800 schools enrolling more than 800,000 pupils. The Office of the Superintendent of Public Instruction is organised into three branches: Curriculum, Student Services, and Technology; Vocational Education, Student-Community Services; and School Business Services. The Curriculum, Student Services, and Technology branch maintains within its Technology and Resource Services division a supervisor of school library media programs, who acts as a consultant to local school districts in three main areas. First, the supervisor coordinates educational information dissemination. Second, the supervisor develops and implements initiatives for school improvement by preparing publications offering technical assistance, working with groups to plan and implement inservice programs, providing workshops on the processes for selecting curriculum materials, planning, organising and conducting workshops for school library media improvement, providing technical assistance to school districts with challenges to curriculum materials, liaising with the Washington Library Media Association and educational service district media directors, responding to inquiries about the school library media programs, giving presentations on print and non-print media, and providing consultative and informational services to educational service districts and school districts for developing and improving school library media programs. Third, the supervisor develops, implements and provides technical assistance to school districts for meeting standards as school library media centres by preparing and reviewing guidelines, and reviewing research findings from other state and national organisations.

7.4.1 Selection and Adoption of Curriculum Materials

The Washington Superintendent of Public Instruction (1991) reported the use of an approach for selecting and adopting curriculum materials at the local level. In December 1974, the Washington State Board of Education endorsed a policy that school districts, when selecting and adopting curriculum materials, should comply with five guidelines: first, curriculum materials should enrich the curriculum by taking into account student differences; second, curriculum materials should stimulate the cognitive and affective development of students; third, curriculum materials should present opposing views on controversial issues so as to promote critical analysis and decision -making; fourth, curriculum materials should portray gender, religion, ethnicity and culture of different groups objectively, and present models to develop respect for differences between groups and individuals; and fifth, the previously stated criteria should be applied to selecting basic curriculum materials.

The board of directors in each school district in Washington is required to institute eleven provisions regarding the selection and adoption of curriculum materials. First, each board involves professional educators in developing a policy for selecting and adopting curriculum materials. The selection policy should reflect curriculum trends, research and innovations in teaching and learning, the changing expectations of teachers and students, and the availability of curriculum resources. It should include specific criteria relating to materials in various media, as well as including the general criteria endorsed by the Washington State Board of Education, and state the role of curriculum materials within the district's educational program. The policy should contain a specific statement regarding the elimination of sexist bias in all curriculum materials, and a set of appropriate screening criteria, based on the regulations and guidelines developed by the Washington Superintendent of Public Instruction to eliminate sex discrimination. General criteria for evaluating curriculum materials, and the use of a form for selecting basic curriculum materials, are recommended. The general criteria consist of rating scales for judging various aspects of text format, audiovisual format and considerations, organisation and overall content, biases, the teacher's guide for texts or audio-visual materials, and additional support materials which accompany text. The form for selecting basic curriculum materials consists of criteria with rating scales to judge various aspects of technical quality, effectiveness of the material, content, gender bias, racist and ethnic bias, and review of literary works.

Second, each board delegates appropriately trained and certificated personnel to prepare and recommend teachers' reading lists and specify the procedures to be followed in the selection of basic and supplementary curriculum materials. Third, each board requires that its school district's superintendent forms an Instructional Materials Committee. The members of the committee should be representative of all district curriculum committees, and at the discretion of the district may include interested parents, citizens and students, although these groups should not constitute a majority of members on the committee. The superintendent of the educational service district is represented on the committee, if the school district operates only elementary schools, so as to ensure that adoptions correlate with those of school districts operating high schools for the same student population. The tasks of the committee involve reviewing materials for sexist and racist biases, developing long-range plans for acquiring materials, planning the development of the district's media program, and reviewing and selecting all curriculum materials used in the school district.

Fourth, the board notifies both parents of their opportunities to serve and committee members of their terms of office. Fifth, the board provides a procedure for receiving, considering and acting upon written complaints regarding curriculum materials used in the school district. Challenged materials are evaluated at a public hearing. Sixth, the board ensures that curriculum materials are provided to students through loans. Seventh, the committee recommends all selected materials to the board for adoption. Eighth, the board may reimburse the expenses of external experts and members of the committee involved in travel. Ninth, the board may permit the school district to field-test curriculum materials before adoption. Tenth, the board may permit the school district's superintendent to purchase curriculum materials to meet special needs or changing circumstances. Eleventh, the board establishes a depreciation scale for determining the value of curriculum materials.

7.4.2 Sample Local School District Policy

The Washington Superintendent of Public Instruction cited the policy applied by the Edmonds School District, as showing exemplary practice in the selection and adoption of curriculum materials at the local level. The Edmonds School District office is based in Lynnwood, Snohomish County, approximately 10 kilometres north of central Seattle. The district is served by the Northwest Educational Service District, and enrolls approximately 19,000 pupils in six high schools, four middle schools, and twenty elementary schools located in the fringe Seattle suburbs of Lynnwood, Edmonds, and Mountlake Terrace.

The policy of the Edmonds School District for selecting curriculum materials has four aims: to facilitate achievement of the district's curriculum goals and objectives; to maintain continuity in the educational program; to provide effective basic materials for all students; and to provide flexibility in meeting the needs of special individuals and groups. The district's curriculum commission, comprising representative members of the district's professional staff appointed by the district superintendent, is responsible for administering the selection procedure. This responsibility is carried out by reviewing major adoptions to ensure that proper procedures have been followed, ensuring that selected materials are consistent with the district's goals and objectives, and ensuring that teachers who use the materials are involved in the selection process through appropriate information gathering techniques.

Different procedures are applied to select six types of material: basic curriculum materials; supplemental materials; teacher-selected resources; teacher materials' lists; learning resources; and the district's media collection. The procedure for selecting basic curriculum materials is initiated by the district's curriculum department notifying appropriate staff members of each prospective adoption two years in advance, reviewing the goals and objectives of the appropriate subject area, appointing an ad hoc adoption committee, and notifying publishers' representatives. The adoption committee, comprising teachers from the appropriate subject area and level, determines specific screening criteria based on the district's criteria for selecting curriculum materials, screens all available materials in the subject area, and notifies publishers of unacceptable materials. Those materials, which best meet the screening criteria, are pilot-tested in the district's schools. The adoption committee and the piloting teachers then review the findings of the pilot-test, recommending whether the materials should be adopted, and specifying both the basic materials to be included in the adoption and the ratio of materials to pupils for purchase. Usually the adoption committee recommends a single material for adoption, but multiple adoptions can be recommended following justification on educational grounds and cost. The adoption recommendation is submitted to the appropriate elementary or secondary subject area council and principal group for recommendation before submission to the curriculum commission for recommendation to the superintendent's board of directors. The Edmonds School District supplies basic curriculum materials free of charge to students on a loan basis.

Supplemental materials are reviewed by classroom teachers or subject department heads. Teacher-selected resources, which are of transitory interest, are selected by applying the district's criteria for selecting curriculum materials. Lists of items, known as teacher materials' lists, from which students select materials can only include supplemental materials. Learning resources, held in learning resources centres in school buildings, are selected by learning resource specialists using the district's criteria for selecting curriculum materials. Films, videos and other non-print materials from the district's media collection, held in the district's instructional media department, are selected by means of written evaluations by three or more professional staff members, recommendation by an adoption committee, or recommendation by the district's curriculum department.

Procedures are specified for dealing with parents and citizens, who object to the use of specific curriculum materials in the district's schools. Written requests by parents for an individual student to be exempted from using specific curriculum materials are judged by the school principal, although an unsatisfied parent may request a meeting with the superintendent, whose decision resolves the challenge. Parents or citizens, who wish to remove specified curriculum materials from use in the district's schools, are required to submit their requests on a form to the superintendent, who appoints a review committee. The review committee, whose members are representative of a wide range of expertise in the use of curriculum materials, considers whether the challenged material has been selected in accordance with the selection procedures, the rationales of opposing groups involved in the challenge, and the opinions expressed in reviews of the materials. The review committee then holds a public hearing at the request of the petitioner before submitting a final report to the superintendent. The superintendent informs the petitioner in writing of the review committee's decision, and places any restriction on the materials arising from the challenge. The petitioner may appeal the review committee's decision to the district's board of directors, whose decision is final.

7.5 Context and Transactions of the Training Program Used by Connie Muther & Associates

Formerly known as Textbook Adoption Advisory Services (TAAS), Connie Muther & Associates is an agency based in Manchester, Connecticut, which provides a consulting service for local school districts. The service is designed to provide members of a school district adoption committee with professional development in a decision-making process for selecting curriculum materials that matches the particular curriculum used in the local school district. The process is developmental, being regularly modified on the basis of experience derived from practice. Connie Muther & Associates offers workshops, in which the process is presented as a program through a set of inservice training modules (Muther, 1983). The workshops are offered to local school districts on a regular basis in geographically dispersed localities across the United States. The approach, advocated by Connie Muther & Associates, is used in approximately 10 percent of local school districts in the United States. The program is also made available on both a set of twenty audiotapes and a videotape. The service also provides a newsletter, published six times a year, and offers a telephone helpline service. Formerly, the service maintained a database of story-sort records of literature, reading and whole language programs, marketed by thirty publishers, available from Circle Z Enterprises, Waco, Nebraska.

7.5.1 Training Program

The program was originally developed for a workshop for school administrators in 1983 by Connie Muther, a teacher, administrator, consultant to several textbook publishers, author and conference presenter. The plan of the decision-making process involves a sequence of three stages: first, planning, analysing and identifying what is wanted in a new material; second, evaluating and selecting the materials that match best what is wanted; and third, implementing the new materials effectively. The program assumes that the adoption policy of the school district meets particular conditions in relation to the expertise of selectors, field testing of curriculum materials, the identification of goals in the district's educational program, and requires the school board to support the policy. It assumes that decisions concerning budgetting, setting time limits, determining participation and the extent of control over changes, and selecting a director are made before the process is initiated.

The program involves establishing a committee in the school district, which at its first meeting, forms seven subcommittees: Communications, which supports the director by communicating information to members of the committee; Pitfalls, which solves constraints involving the adoption process, the materials to be adopted and committee meetings; Research, which provides research information; Needs Assessment, which assesses needs of schools for materials; Materials, which collects information from publishers on available materials and establishes a delivery system to schools; Implementation/Training/Modifying, which trains and works with teachers to implement the materials in schools; and Monitoring, which works with monitors of materials used in schools. The committee is led by a director, an unbiased, non-voting but autocratic facilitator, who manages the work.

The first stage of the process involves reviewing research (Muther, 1985b), forced ranking of performance objectives contained in curriculum guides onto charts for display in classrooms as 'Curriculum-on-the-Wall' and for parents as 'Curriculum-in-the-Home', assessing needs, reducing and ranking research trends, needs and evaluative criteria, and defining the three most highly ranked goals. The second stage involves initial screening of all submitted materials by grouping them according to physical attributes, and then analysing the contents by using three evaluative techniques: topic comparison, or story-sort comparison in the case of reading materials (Muther, 1987a); vertical trace (Muther, 1984; Muther, 1985a; Muther, 1987b); and horizontal trace (Muther, 1988). In topic comparison, the same topic, concept or skill in the submissions of three publishers is compared to an agreed upon ideal by following three steps: selecting the topic, concept or skill that is associated to the curriculum; photocopying and editing a lesson by cut-and-paste onto a three-column layout; and comparing clusters of three publishers to the agreed upon ideal. In vertical trace, the sequential development of a topic, concept or skill across more than one grade of the same publisher's series is traced by following ten steps: selecting the topic, concept or skill that is associated to the curriculum and is developed across several grades; locating where the topic, concept or skill is taught by referring to the index; laying out the first major instruction for each publisher to determine the trend; photocopying examples which substantiate the trend; cutting-and pasting the layout; determining the quality of sequential development by matching the material to an ideal; hypothesising instructional design formula; determining quality of instruction, repeating these steps for series from two other publishers; and selecting the best match to the ideal. In horizontal trace, the development of one topic, concept or skill in one grade or course is compared by following eight steps: selecting the topic, concept or skill that is associated to the curriculum; reviewing the curriculum goal and how it is measured; listing what students need to know in order to achieve success, including testing format; beginning with the initial presentation at the same grade level or course; tracing through all instruction identified by the publisher's index; determining quality of instruction by matching the trace to the list of what students need to know; repeating these steps for materials from two other publishers; and selecting the best match to the ideal. The results of the evaluation are compared, and the three materials that best match needs are selected. A computer-based program, available on a microcomputer diskette, may be used to calculate forced choice rankings and to organise the results of evaluations. Negotiations should then be conducted with the publishers of the adopted materials to ensure the best purchase prices and service (Muther, 1985d; Muther, 1985-86). In-depth piloting of the materials is conducted by visiting user schools or conducting 'kid ratings', a field-trial in which students verify the three textbooks selected by the committee (Muther and Conrad, 1988), by rating which textbook teaches best the subject matter in a common topic (Muther, 1988), or by using other alternatives, such as surveying publishers' representatives, teachers, or by examining field-test results (Muther, 1985c). In the third stage, planning forms are used to install the adopted materials, and school-based monitors facilitate and evaluate implementation of the adopted materials by working with teachers (Muther, 1987c).

7.5.2 Sample Local School District Policies

Verification of the application of Connie Muther's selection procedure was provided by one respondent to the survey. The representative from the South Dakota Department of Education and Cultural Affairs reported that since Connie Muther & Associates had made the training program available in South Dakota, local school districts had taken a closer look at textbooks and the selection process.

It was identified from a client list that Connie Muther & Associates' service was used in Washington by nine local school districts: Chehalis School District; Granite Falls School District; Kelso School District; North Kitsap School District; Olympia School District; Pasco School District; Seattle School District; Sheldon School District; and Tacoma School District. Information on the selection procedures used by Kelso School District, North Kitsap School District, Sheldon School District, and Tacoma School District was provided in response to a survey of the nine school districts. Respondents from the latter three school districts, however, indicated that Connie Muther's procedure had been applied in their school districts only to a limited extent. These three school districts were excluded from further consideration, following verification of the respondents' claims by examination of the statements of each district's selection procedure. It was identified that Connie Muther & Associates' service was used by only one local school district in Utah, Jordan School District, which also responded to the survey.

7.5.2.1 Kelso School District, Washington

The Kelso School District's administration office is based in Kelso, a city of 11,800 people located on the Columbia River in Cowlitz County, Washington, approximately 105 kilometres south of Olympia. The district is served by the Vancouver Educational Service District, and enrolls approximately 4,800 pupils in one high school, two junior high schools, and seven elementary schools located in Kelso and neighbouring towns.

Kelso School District uses a seven-year curriculum development and materials adoption cycle for grades K-12 in which each subject area progresses through seven stages covering research and development for the first year, adoption for the second year, implementation for the third year, and monitoring and evaluation for the fourth, fifth, sixth and seventh years. The selection of basic curriculum materials is undertaken in conjunction with the adoption of each subject area by teachers submitting requests through district administrators to the Curriculum Coordinating Council, which appoints Curriculum Area Committees to review materials. Curriculum Area Committees use the videotape, showing Connie Muther's procedure, to train committee members to select curriculum materials, and to apply the process. Materials recommended by Curriculum Area Committees are approved by the Curriculum Coordinating Council, and then adopted by the Kelso School Board of Directors.

7.5.2.2 Jordan School District, Utah

With its administration office based in Sandy, 20 kilometres south of Salt Lake City, Jordan School District is the second largest school district in Utah, covering the southern half of Salt Lake County. The district enrolls approximately 70,600 pupils in 7 high schools and 1 technical centre, 13 middle schools, 46 elementary schools, and 3 special schools.

Although secondary schools select curriculum materials from the state-adopted list, Connie Muther's procedure was adapted to select materials for the elementary level. This adaptation involves a committee reviewing research in the field, summarising research and identifying specific areas of emphasis. Then the committee members use areas of emphasis to make a forced field selection matrix. Using the matrix, the committee members reduce criteria to three or four categories. Subcommittees, consisting of one representative from each grade level, develop criteria judging sheets for use by their members. Curriculum materials are then screened by each subcommittee for their area of emphasis only. Points scored by each material are then tallied from all subcommittees. Those materials with the highest scores are presented to the full committee, which then selects the most appropriate materials. The committee recommends the selected materials in a report presented to the district administration, which also reviews bids presented by publishers. The district administration adopts one or more materials after reviewing the committee's report and publishers' bids.

7.6 Key Elements of Selection Procedures

The case studies illustrate that the selection and adoption procedures in the states show a common, generic pattern for the decision-making process, within which variations may occur in several important aspects. In statewide adoption states, the decision-making process is usually centralised, and is initiated by the formation of a committee, which may comprise one of several types. The basic type, generally operating in smaller states, consists of a committee authorised by the state board of education to review, evaluate and nominate curriculum materials in all subject areas. In some larger states, the committee is assisted by advisors chosen by committee members or by appointed sub-committees, whilst in other states, committees are assigned by the state board of education to each subject area. The organisation of committees appears to be most complex in the largest states. In California, the Curriculum Commission is advised by both Instructional Resources Evaluation Panels, which are assigned by both subject areas and grade levels to evaluate educational content in submitted materials, and a Legal Compliance Committee, which evaluates all materials for social content. Local-level committees in both statewide and local-level adoption states follow the basic type with committees comprising three or more members. Generally, the representation of membership on committees is broad-based including lay people, often parents, as well as various groups of educators, usually with a majority of classroom teachers. In statewide adoption states, committee members are required to observe ethical practices, prescribing penalties including fines and imprisonment for publishers and educators involved in unethical practices during the selection process. Although most state education agencies, using statewide adoption procedures, require committee members to participate in some form of training at the commencement of their tenure, the training program used in Florida shows evidence of good practice that is exceptional rather than typical. The training of selection committees in local school districts is also being improved by the work of Connie Muther & Associates, although the application of the approach recommended in the training program by many local school districts appears to be selective and limited.

Appointment of committees is followed by an invitation to publishers and producers of curriculum materials to submit bids in subject areas scheduled for adoption. In statewide adoption states, publishers send lists of materials submitted for adoption, together with sample copies to the state education agency, statewide and local selection committees, and public display centres. In local-level adoption states, publishers generally send lists and sample copies to local selection committees only. Although the media of materials covered by selection procedures vary, basic materials providing the core curriculum in each subject area, are always subjected to adoption. Supplementary materials, audio-visual materials, and computer-based and other electronic materials are less frequently covered by adoption procedures. Generally, members of both statewide and local committees review submitted materials independently, and then meet to discuss their evaluations. The involvement of various interested groups in the decision-making process of the various selection procedures appears to be an important strength. Most states permit publishers or their representatives to make presentations to committee or commission members, although these presentations are strictly controlled. Similarly, provisions are also made for private citizens and special interest groups to make their views known about materials submitted for adoption either through public display centres, maintained in many statewide adoption states, or at public hearings held before the formal adoption. Submitted materials are also sometimes verified by pilot testing in schools or by consulting various specialist groups. The voting procedures for final approval vary considerably between different selection authorities. Usually, committee members vote either to recommend or not recommend each submitted material, but in Florida, the State Instructional Materials Committees consider information derived from six sources in reaching final judgments. Following final voting, the committee presents a report on its deliberations to either the state or local board of education, which is often responsible for the formal adoption of materials.

The length of the selection period varies considerably between different states, but the evidence suggests that the length of the selection period is dependent on various external factors, and educational reasons may not be important considerations. An important aspect of all selection procedures is the use of the adoption cycle, whereby selection of materials is allocated to certain subject areas in particular years. The adoption cycle is generally fixed in advance in most statewide adoption states, but is often more flexible in local-level adoption systems. In California, the cycles for developing curriculum frameworks and the adoption of curriculum materials are synchronised, thereby forging an important connection between these two elements of curriculum development. In most states, the adopted list is approved by the state board of education in statewide adoption states, and local boards of education for local-level adoptions. The action of adoption in statewide adoption states constitutes a formal contract between the state education agency and publishers to supply adopted materials to schools for the period of the adoption cycle with purchase being determined as a result of the local-level selection process. In some statewide adoption states, publishers operate depositories, which are responsible for bulk ordering state-adopted materials, processing orders and distributing materials to local school districts. In all statewide adoption states local-level decision-making in the selection process occurs at a stage subsequent to the approval of state-adopted lists, although in Florida, school district committees participate in pre-adoption evaluations to recommend submitted materials to State Instructional Materials Committees, and in Nevada, school district committees participate in textbook evaluation projects to recommend materials to the State Board of Education for adoption. Local-level selection procedures in both statewide and local-level adoption states are characterised by a wide degree of differentiation.

7.7 Outcomes

An understanding of the decision-making processes involved in selection procedures used by state education agencies in the United States may have important implications for curriculum planning in Australia, as the demands for striking a balance between a nationally consistent approach to the curriculum and the use of appropriate curriculum resources, and the needs for state autonomy and local flexibility in curriculum development are met. The evidence, reported in Chapter 4 on current procedures used by state education and accreditation agencies in Australia to select curriculum materials, shows that decision-making involving representation and participation by various interested groups on selection committees is not an important feature. Once the national curriculum framework is applied to form a common basis to define the content of new curriculum materials, a range of selection procedures and analytic techniques may need to be integrated into a sound decision making process for matching the congruence between the framework and new curriculum materials. The case studies, presented in this chapter, illustrate the wide range of common and variable features, which could be adapted to enhance the structure and organisation of the decision-making process for selecting curriculum materials in educational settings in Australia.

The case studies show that a common generic pattern underpins the decision-making process within which numerous variations may occur. Although most statewide adoption states employ centralised, bureaucratic procedures for selecting materials which show considerable uniformity, mechanisms have been designed in several of these states to decentralise decision-making. For instance, Florida and Nevada initiate the statewide selection of curriculum materials at the local level, and several states provide for local school districts to petition the adoption authority to use non-adopted materials. The selection procedures used in local-level adoption states show such wide differentiation as to defy classification, although each conforms to the generic pattern. Thus, the presence of many variations indicates that flexibility and responsiveness to change, ensuing from such factors as education reform, are important properties of the generic decision-making process for selecting curriculum materials. Therefore, the various selection procedures appear to be capable of adaptation to different geographical settings.

The complexity of interactions between various factors, such as the responsibilities and roles of adopting authorities and selection committees, the participation of the public, and the involvement of publishers, in relation to the allocation of time and funding, is clearly illustrated in the case studies. It seems that the interactions between different groups is critical to the decision making process in each of the exemplary selection procedures. Whilst the nature of these interactions cannot be readily analysed, it is apparent that the involvement of particular groups needs to be regulated to ensure a sound decision-making process. This circumstance appears to be particularly important in state-level selection procedures, such as those operating in California and Florida, but less important although not insignificant in local-level adoption states.

Furthermore, the case studies illustrate some of the more notable variations identified from the survey of state education agencies in the United States. The use of committees to review curriculum materials is central to all selection procedures. The case study on California describes the typically centralised approach used in a statewide adoption system, whereby state-level committees select materials with little reference to classroom teachers. On the other hand, the case study on Florida describes a more decentralised approach used in a statewide adoption system, in which selection committees from local school districts contribute information on the submitted materials to state-level committees for consideration in making final selections. This approach resembles the decentralised approaches used in local-level adoption systems, although the case study on Washington identifies features of state-level centralisation providing limited central control, namely the specification of selection guidelines and the employment of a consultant to coordinate the work of local selection committees.

The provision of training for committee members, which became an important issue during the educational reform movement, is illustrated in two exemplary training programs. The case study on Florida illustrates a training program, which was designed specifically for this particular statewide selection procedure. On the other hand, the program designed by Connie Muther & Associates is used to train members of local selection committees. Developed and frequently modified from the practical experience of decision-making by local selection committees, this training program may be applied to align a school district's curriculum with its selection procedure.

Various evaluative techniques for selecting curriculum materials are also emphasised in the case studies. Learner verification and revision, which forms a technique for gathering and analysing data obtained from field trialling materials with appropriate groups of students and then revising the materials on the basis of the results, was promoted widely during the 1970s, and incorporated within Florida's statewide selection procedure. The evaluative techniques of topic comparison, vertical trace, and horizontal trace, used in Connie Muther's procedure, are particularly suited to selections undertaken by small local-level selection committees.

Evidence now shows that development and approval of national content standards in the United States are encouraging both statewide and local-level adoption states to develop and implement state curriculum frameworks, although this trend appears to be slower in the latter group and conditional upon voluntary application by local school districts. An analysis of information on English language arts standards, contained in a report published by the National Council of Teachers of English (1995), indicated that most statewide adoption states had already implemented state curriculum frameworks or specified curriculum objectives and outcomes, whilst the reminder were developing frameworks. On the other hand, most local-level adoption states were developing state curriculum frameworks, although some had already implemented frameworks or specified curriculum objectives and outcomes, with only Iowa and Nebraska reporting that these initiatives were not being considered. Acceptance of voluntary national content standards has the potential to influence some states, particularly statewide adoption states, to prescribe state curricula and statewide selection procedures more effectively.

CHAPTER 8

CASE STUDIES OF SERVICES FOR EXCHANGING INFORMATION ON CURRICULUM RESOURCES

Case studies of information services are presented in this chapter. The purpose is to examine their application from the perspective of providing a tool for selecting curriculum materials. The case studies, covering selected information systems from their inception in the 1960s until the mid-1990s, traces the development of these systems in applying various evaluative approaches to provide information about curriculum materials. In the first instance, it describes the development of the nationwide service providing information about curriculum materials to Australian schools, currently operated by Curriculum Corporation. In the second instance, it describes the services for exchanging various types of information about curriculum materials offered by several information providers in the United Kingdom and the United States. The chapter concludes by examining implications of particular features in each of the information systems for the selection of curriculum materials.

8.1 Research Problem

The application of information technology to facilitate the selection of curriculum materials should provide a powerful tool for assisting teachers, curriculum specialists, and others concerned about choosing the best learning resources for students. Design of an information service to promote this aim, however, needs to follow the implementation of sound procedures, which organise the decision-making process for selecting curriculum materials. Integration of an electronic information service into a selection procedure, which demands that teachers research information about curriculum materials during the decision-making process, is likely to realise the potential of establishing a good selection policy in a particular educational setting.

The evidence, presented in the previous chapters, suggests that selection procedures have not usually incorporated electronic information services as aids to the decision-making process. Curriculum planners in Australia, however, designed a nationwide information service on curriculum resources for teachers, before implementing sound selection procedures. Implementation of this service was accompanied by several intractable problems, identified in educational literature, which may be attributed to this inadequacy. Connors (1980) reported that CDC perceived the provision of a full-scale information service on curriculum resources was impractical given its limited resources. Its staff believed that CDC could eventually make an information service available about selected curriculum materials, syllabuses, research reports, theoretical works dealing with curriculum, and professional materials for teacher development. Broadbent and Kemp (1983) reported that the Curriculum Information Service, trialled by CDC between 1976 and 1979, was criticised by CDC's state contact officers leading to its suspension, followed by reference of this issue to AEC in 1981. Furthermore, Broadbent (1983) drew attention to the divergence between the Australian Schools Catalogue Information Service (ASCIS) and CDC's Curriculum Information Service, concluding that practices, methods and techniques used to provide school library services and curriculum information services had been inadequately integrated within the Australian educational context.

The evidence, reported in Chapter 4, also suggests that this service failed to satisfy four other requirements. First, the provision of information on curriculum materials has been conducted almost entirely by state and territory departments of education and accreditation agencies in Australia in an uncoordinated way. Second, decision-making involving representation and participation by various interest groups on selection committees is not an important feature of current procedures used by state and territory departments of education and accreditation agencies to select curriculum materials. Third, the practices, methods and techniques used to analyse curriculum materials do not provide information that relates to the principles of curriculum design. Fourth, there is no evidence that analysts of curriculum materials have been trained in the skills of curriculum design analysis.

The purpose of this chapter is to investigate the tenability of these findings by applying case study method to describe processes applied by various information providers in Australia, the United Kingdom, and the United States for exchanging various types of information about curriculum resources. As well as examining existing services, a prospective service being developed by the United States Department of Education, is examined to determine key elements representing the state-of-the-art in the application of information technology. The case studies examine a range of common elements: the development of the information system; the processes used to collect, select, analyse and input information into a database; the content and processes used to search a database; and the available products and services provided by the information system and their access by clients.

8.2 Context and Transactions of Information Services on Curriculum Resources

8.2.1 Curriculum Corporation

The development of national collaboration to catalogue educational resources, held in school libraries, was reported widely in studies documenting the formation of ASCIS (Dwyer, 1978; Goodman, 1980; Bahnisch, 1983; Lane and Chisholm, 1984; Dwyer, 1988). Cooperation between state departments of education for this purpose began during the 1970s as a series of pilot studies. In 1973, the National Library of Australia trialled the extension of a catalogue card service to schools. A proposal to establish a national cataloguing agency for school libraries was first initiated at a conference of state representatives held in June 1974. As a result, the Commonwealth Schools Commission commissioned two studies, one in 1974, which recommended the establishment of a national agency to provide catalogue cards for schools, and the other in 1977, which specified the requirements for an information system, including input from state systems and output provisions in magnetic tape, microfiche and catalogue cards.

The South Australia Department of Education's introduction in 1977 of the South Australian Education Resources Information System (SAERIS), provided a database producing output in microfiche and catalogue cards, which formed the basis for a two-year pilot study at the national level by the Commonwealth Schools Commission, commencing in April 1978. Intended to provide a bibliographic database of information on materials held in school libraries with output services in catalogue cards and microfiche, the ASCIS Pilot Project used the SAERIS database to design the prospective ASCIS database. Concurrently, three methods were trialled for prospective implementation as a national information service to schools. In the first, cataloguing information was exchanged between SAERIS and state education agencies. In the second, 166 South Australian schools received copies of the database in the form of microfiche. In the third, 200 Tasmanian schools received the database from a magnetic tape through TASNET, an interactive online system established by the Tasmania Department of Education in 1970. Following the completion of the pilot project in July 1980, the Australian Schools Catalogue Information Service Steering Committee (1980) reported five main outcomes: a database of 100,000 records had been developed; software to access the database had been developed; microfiche and catalogue card services had been established; an online cataloguing service had been established in Tasmania; and online access to the database was available through a host service, the Australian Online Information Network (AUSINET).

The success of the trial project led to the formation of a planning group in December 1981 to direct the formative development of ASCIS, followed by appointment of the ASCIS secretariat late in 1983. Early in 1984, ASCIS contracted ACI Computer Services to design a database based on the Dortmund Bibliographic Information System and the Leuven Integrated Bibliographic System. AUSMARC III was selected as the recognised standard on which materials held in school libraries should be indexed, with the records providing additional scope for an abstract. Cataloguing agencies were established in the Western Australia Department of Education and the Australian Capital Territory Schools Authority as well as the South Australia Department of Education. These agencies solicited materials from school libraries, publishers, booksellers and government agencies. The 150,000 indexed records, contributed by these three cataloguing agencies, formed the basis for the Schools Catalogue Information Service (SCIS) file on the database, when the nationwide service was initiated in August 1984. At that time, the service provided cumulative computer output microfiche annually, supplemented by monthly updates of newly indexed records, catalogue card sets, and magnetic tapes. In 1986, online access was provided to the SCIS file, and the service also incorporated the dissemination of the database on microcomputer diskettes. Eventually, the SCIS file grew to contain 400,000 records, and ASCIS provided services to 4,000 Australian schools.

As the outcome of an initiative by the Western Australia Department of Education in 1980, the Commonwealth Schools Commission established a one-year project in March 1982 to create a subject headings list to provide a controlled vocabulary for teacher-librarians to index and retrieve information on materials from the ASCIS database. Compiled by two project officers from various lists of subject headings used for library cataloguing, the subject headings list was field-tested and revised on the basis of testing in a sample of schools and state cataloguing agencies during 1983. The subject headings list, which used Australian English terms, was designed so that it could be used by students. The Australian Schools Catalogue Information Service (1985) followed the first edition with a second, published in 1989, which incorporated 700 additions and changes.

Concurrently, efforts were undertaken during the 1970s to develop an information service on curriculum materials for Australian teachers (Broadbent and Kemp, 1983). Activities included a study undertaken during 1976 by CDC involving a survey of teachers' needs for information on curriculum materials, which led to a trial project to implement a Curriculum Information Service between 1976 and 1979. Late in 1981, AEC established a Curriculum Materials Committee which recommended in 1982 that a national curriculum information service should be established. It was not until after CDC had been reactivated in 1984, however, that the information system developed by ASCIS was used to input and store information on curriculum resources for subsequent dissemination to teachers. Cropley (1985) reported that collaboration was initiated between CDC and other educational authorities in 1985 to develop the Australian Curriculum Information Network (ACIN). A national clearinghouse was established, and coordinators were appointed in each state and territory to collect and screen syllabuses, curriculum materials, curriculum policy statements, and curriculum research reports produced by educational organisations. Cropley (1987) reported that the *Australian Thesaurus of Education Descriptors*, developed for use with the Australian Education Index, was used to index records for the ACIN subfile, although the use of this controlled vocabulary was later abandoned so that the ACIN subfile would conform to other files and subfiles within the ASCIS database. Access to the ACIN subfile was provided in October 1987 by microfiche updated every six months.

Subsequently, CDC was also involved in developing three additional subfiles for the database. Krystyn (1987) reported that CDC was funded in 1986 to undertake planning for the National Software Coordination Unit (NSCU), following a feasibility study conducted by the Western Australian Educational Computing Consortium (1986). Founded in February 1987, this body held a National Workshop on Software for Education, formed a network for sharing information on computer education projects, and developed the Computer Software Review (CSR) subfile within the ASCIS database containing evaluations of microcomputer courseware. Berman (1987) reported that the indexes in the subfile were designed to provide information on publication, technical details, distribution, content description, and specifications of audiences and age groups for computer courseware, as illustrated in the sample record presented as Figure 5. Online access to the CSR subfile became available in April 1988, and the service also provided microfiche updated every six months.

Formed in 1988 to promote a diverse range of activities to commemorate the bicentennial year of the foundation of European settlement in Australia, the Australian Bicentennial Authority sponsored CDC to develop the Bicentennial Australian Studies Schools Project, to identify educational resources that supported the teaching of Australian heritage studies. The resources identified during the course of the project included the Lu Rees Archives, a collection of children's literature housed in the University of Canberra. Information on these resources was indexed to form the Australian Studies subfile within the ASCIS database.

FIGURE 5

SAMPLE RECORD FROM THE CSR SUBFILE

707839 Communities kit. Dept. of Education, Qld. Brisbane, 1991
1 audio cassette, 1 book, 1 computer disk, 6 posters, 1 video cassette, 1 teachers guide
NAMES: Tanner Jane
TITLES: Communities kit
PUBLISHERS: Dept. of Education, Qld. Brisbane
SUBJECTS: Community life/Cities and towns
CLASS NUMBERS: 307.74 20 / 307.74 a12
NOTES: collatn: 1 audio cassette, 1 book, 1 computer disk, 6 posters, 1 video cassette, 1 teachers guide general: Systems requirement: Apple II series resp: Book entitled: Niki's walk / by Jane Tanner
NSCU DESCRIPTION WAED SF72
For Apple IIc IIe or IIGS with 128K memory minimum. Requires 1 disk drive and printer. Mouse optional although desirable. A simulation and integrated software package comprising 1 disk, 1 videocassette, 1 audiocassette, 1 teacher's handbook, 6 posters, 1 book. Communities is designed to support the Queensland year 3 social education unit on Australian communities and can also be used in WA across the curriculum and specifically in social studies units Society and culture and Change which look at the topic of communities. The program allows students to explore the complexities of town planning and to design their own towns.
CURR AREA: Across curriculum Social Studies
LEV: Lower primary Middle primary
AVAIL: Dept of Education Queensland Materials Development Services PO Box 220 Ashgrove QLD 4060 Ph 07-237939 $195.00. Backup permitted. Site license included in purchase price.
RECOMMENDATION: Recommended
NSCU REVIEW WAED SF72
A comprehensive package which can be used on a class, group or individual basis. The video, map, charts and book are all well presented, but the software graphics are too confusing for a small monitor screen - the colours and detail tend to blur the image when too many symbols are added. One drawback of the package is the lack of representation of all the representative communities in Australia, there are no functions for remote country communities or Aboriginal communities. A useful addition to the package from the classroom teacher's point of view would be a sample program, but in general, the teacher's guide is well thought out, with lots of activities designed to help teachers plan a lesson. As South Newman PS is a participating school in the First Steps program, the key teacher, Mrs D Tindale was approached for her opinion and whilst she feels that the activities are geared for a thematic language approach, it is suggested that there could be more examples of worksheets for the various year levels. The rhebus picture letters will be of benefit to students who are not fluent readers, such as ESL students. The handy reference chart on page 57 of the teacher's guide is deemed to be a plus, as it saves a lot of searching through shelves. In general, the package is considered to be a useful resource, with the following suggestions for improvement: the addition of a student's workbook; making the package more adaptable to the various multi-cultural communities - Aboriginals, station communities, North-West communities and Port towns. Reviewed by Bryce Easton South Newman PS. Review in Software Focus Vol. 7 No. 2 1992.

The National Aboriginal Education Committee and CDC, in conjunction with state and territory Aboriginal education consultative groups, initiated the Aboriginal and Torres Strait Islander Pedagogy Project, to investigate, identify and promote teaching and learning approaches, as well as curriculum materials, to support the teaching of students of Aboriginal and Torres Strait Islander ethnicity. The Aboriginal and Torres Strait Islander Resources (ATSIR) subfile, first made available by Curriculum Corporation in 1991, provided information on resources concerned with both contemporary and traditional aspects of Aboriginal studies.

These activities led to an extension of curriculum information in the database. In 1989, AEC supported a proposal by the Victoria Ministry of Education to survey and evaluate curriculum materials available in Australia for environmental education. The Ballarat Community Education Centre in Victoria was contracted to conduct this project, which was undertaken between December 1989 and May 1990, and subsequently reported by the Victoria Ministry of Education (1990). Records of information on curriculum materials, identified during this survey, were added to the database in 1991 to form the Environmental Education subfile.

In 1990, AEC supported a proposal by the Aboriginal Education Advisory Group to survey and evaluate curriculum materials available in Australia for Aboriginal and Torres Strait Islander studies. As coordinator of the project, the South Australia Department of Education contracted the Aboriginal Education Curriculum Unit at Enfield, South Australia, to conduct this project, which was undertaken between July 1990 and October 1990, and subsequently reported by the South Australia Department of Education (1991). The survey supported an extension of the work already undertaken by the Aboriginal and Torres Strait Islander Pedagogy Project.

Following the presentation by the Asian Studies Council (1988) of a strategy for the study of Asia in Australia, state education agencies implemented a range of programs for language and cultural studies in Australian schools. In response to an initiative by the Asian Studies Council, Curriculum Corporation invited state education agencies in March 1990 to submit proposals to establish a Studies of Asia Information Service. Following a successful submission, the Tasmania Department of Education and the Arts collected information on curriculum materials available for Asian Studies from teachers of Asian languages, Asian Studies Council project groups, professional associations, and Asian studies and Asian language centres in Australian universities. Information on those curriculum and professional materials identified during the survey, formed the Asian Studies subfile, which consisted of two components: one containing records supporting teaching about Asia; and the other relating to the teaching of Asian languages.

Although the Board of Directors of Curriculum Corporation decided to redesign some components of the database inherited from ASCIS in 1991, so that a new Curriculum Information Network (CIN) would support the national curriculum framework, this initiative failed to eventuate. At that time, the existing database consisted of two files: the Schools Cataloguing and Information Service (SCIS) file containing 400,000 records; and six sub-files of curriculum-related records, the Curriculum Information Network containing 6,000 records, Computer Software Review containing 1,000 records, Australian Studies containing 1,850 records, Aboriginal and Torres Strait Islanders Resources containing 1,200 records, Environmental Education containing 700 records, and Asian Studies and Asian Languages containing 1,300 records. It was proposed that the six sub-files of curriculum-related records, contained in the existing database, should be reordered into new sub-files to form a CIN file, based on the subject matter being related to either an across-the-curriculum emphasis or to any one of the eight learning areas. It was proposed that records published in 1988 or later, be reorganised into the new CIN sub-files by the addition of curriculum area identifiers sometime after 1992, and that new abstracting standards be specified for new records and that selected, existing records be reformatted according to the new standards. As part of the redesign of the ASCIS database, Curriculum Corporation initiated an offline search service, titled the Teachers Curriculum Search and Information Service (TECSIS), for a trial period during 1991 and 1992, which provided customised reports from the ASCIS database. The database was also accessible online which included an electronic mail facility and bulletin board, by micrographic application, and catalogue card and related services were provided. The Curriculum Corporation also marketed records from its database in a series of microfiche collections.

Brewer et al. (1992) reported, however, that the Board of Curriculum Corporation decided to suspend the dissemination of the six subfiles of curriculum-related records from July 1992, because continued lack of subscriptions from users made this service uneconomic. The SCIS file on the database, however, continues to be accessible online, on microfiche, on catalogue cards, and on CD-ROM from 1995.

8.2.2 National Information Center for Educational Media

In 1958, the University of Southern California began to experiment with punch cards as a means of storing data in the preparation of printouts for the publication of film catalogues. The work was funded, in part, by a United States Office of Education grant to study the feasibility of establishing a centre at the University of Southern California for the cataloguing of non-print curriculum materials. Subsequently, a large master file was compiled from the material collected during the project, materials previously collected by the University, and from reports of new materials. As users, producers, and distributors of educational media became aware that the University had a computerised file of this information, requests were received for listings of materials in this master file. This project, named the National Information Center for Educational Media (NICEM), was intended to provide information on non-print media resources to the educational community in all fields for all levels, ranging from preschool to postgraduate level. The basis of NICEM services is a computer-readable database, which is used to produce printed catalogues and indexes, as well as a variety of direct computer services.

In the early days of NICEM's operations, individual computer printouts were prepared to meet this demand. As the volume of requests grew, however, this became impractical. Accordingly, the first printed NICEM Indexes were published in 1964 to provide wider, faster and easier access to the data. First made available on-line in 1972, the NICEM database was then made available publicly on-line by DIALOG Information Services in 1977, and on CD-ROM by SilverPlatter Information. In April 1984, the NICEM database was purchased by Access Innovations, an information management company based in Albuquerque, New Mexico. Soon after its acquisition of the NICEM database, Access Innovations implemented changes to the database intended to improve its timeliness and usefulness in the areas of record design, controlled vocabulary, coverage and marketing (Johnstone, 1985). Access Innovations also draws on the special expertise available at the University of New Mexico and the Albuquerque Training and Vocational Institute to ensure accuracy in categorising and abstracting of the material in the NICEM database.

Information contained in the NICEM database is researched by information professionals from catalogues of media publishers and distributors, the Library of Congress catalogue, and the catalogues of media centres, colleges, universities, and libraries. The selection policy is based on including all available materials which are educational, informational, documentary, or historical classics. The information professionals at NICEM catalogue, index, and abstract all records entered into the NICEM database from information specified in source catalogues and other documents. The controlled vocabulary consists of a set of specific terms relevant to the audiovisual field, together with selected terms in curriculum and other areas adopted and added as needed from the *Thesaurus of ERIC Descriptors* and *Books in Print*. Analysis of curriculum resources provides information, illustrated in the sample record presented as Figure 6, for two types of fields in the NICEM database: the basic index; and additional indexes.

The NICEM database is accessible in print, online, offline and on CD-ROM. The printed form of the NICEM database is published by Plexus Publishing, Medford, New Jersey, as four indexes: *NICEM Film & Video Finder* in three volumes; *NICEM Index to AV Producers & Distributors; NICEM Audiocassette Finder*; and *NICEM Filmstrip and Slide Set Finder*. The NICEM database is available online as A-V Online, provided by DIALOG Information Services, and contains records of 16mm motion pictures, videotapes, filmstrips, slide sets, slide-tapes, audiocassettes, overhead transparencies, phonographic records, 8mm film cartridges, interactive video, computer-based training materials, and multimedia materials. A subfile of training materials, A-V Online Training Media Database, is provided through the Human Resource Information Network of Executive Telecom System. Access to A-V Online through CD-ROM is available from SilverPlatter Information. Source materials are available from distributors, as detailed in records, but not on microform.

The NICEM database is used widely in the United States, and can be accessed in foreign countries through gateway services offered by DIALOG Information Services. Sixteen state education and other agencies, responding to the survey, provided information on their use of the NICEM database. The states of Delaware, Florida and Washington indicated they were presently using the NICEM database, whilst those of Arkansas, Nebraska, Utah and Wisconsin indicated they had used the NICEM database in the past. The states of Alabama, California, Connecticut, Kansas, Nebraska, the North Dakota State Board of Vocational Education, South Carolina, South Dakota, Vermont, and the territory of Virgin Islands indicated they had not used the NICEM database.

FIGURE 6

SAMPLE RECORD FROM THE NICEM DATABASE

```
AN,MC 0510096           MEDIA CODE: MV          DATE ADDED: 850000
TI      Contract for Life - The SADD Story
PC      PRODUCER CODE: CBSTV
PN      PRODUCER:           COLUMBIA BROADCASTING SYSTEM
                            51 WEST 52ND ST
PT,PS,PZ                    NEW YORK NY 10019
CC      CREDIT CODE:        HELIOS
CN      CREDIT:             HELIOS FILM PRODUCTIONS
CY                          CHICAGO  IL
DC      DISTRIBUTOR CODE: CF
DN      DISTRIBUTOR:        CHURCHILL FILMS
                            662 N ROBERTSON BLVD
DY,DS,DZ                    LOS ANGELES CA 90069
PY      RELEASE DATE: 1985
MT      MEDIA TYPE:         16MM FILM, 3/4 OR 1/2 INCH VIDEO
        LENGTH:             32 MINUTES
SF      SPECIAL FEATURES: Color
GL      GRADE LEVEL:        J-C A
AB      ABSTRACT: Tells how two members of the same high school hockey team were killed in
        separate automobile accidents in which liquor was involved. Shows how the boys' coach
        and friends formed Students Against Drunk Driving, which has several thousand chapters
        around the United States.
DE      DESCRIPTORS: Social - Smoking And Drug And Alcohol - Psychology; Liquor Problem -
        Sociology; Youth - Sociology
SC      SUBJECT CODES: T753400; Z470000; Z900000
```

Key: The basic index provides the title (/TI), an indicative abstract (/AB) and descriptor fields (/DE, /DF) for a particular curriculum resource. Additional indexes are specified as prefix codes: accession number (AN=), credit code (CC=), credit name (CN=),credit state (CS=), credit city (CY=), credit zip code (CZ=), distributor code (DC=), date added (DD=), distributor name (DN=), distributor state (DS=), distributor city (DY=), distributor zip code (DZ=), grade level (GL=), LC card number (LC=), media code (MC=), media type (MT=), producer code (PC=), producer name (PN=), producer state (PS=), producer city (PC=), release date (RD=), producer zip code (PZ=), subject code (SC=), series name (SN=), and special feature (SF=).

8.2.3 National Center for Research in Vocational Education

The National Center for Research in Vocational Education (NCRVE) was established by the United States Office of Education in 1965 at the Ohio State University, Columbus, Ohio, to address issues of national significance and to promote improvement in vocational and technical education at the secondary and post-secondary levels. This mission is accomplished by conducting and publishing research results, conducting conferences and workshops, developing and publishing curriculum materials and performance-based teacher education materials, screening, selecting and promoting exemplary materials for vocational and technical education, providing technical assistance, providing leadership training in personnel development, and disseminating information by means of printed and electronic newsletters and databases. In 1972, the United States Office of Education funded five state curriculum laboratories in California, Illinois, Kentucky, Mississippi, and Oklahoma, following the completion of a study into the need for a curriculum delivery system. In 1973, grants were also provided to the states of New Jersey and Washington to establish laboratories. In July 1973, these seven laboratories formed the National Network for Curriculum Coordination in Vocational-Technical Education (NNCCVTE) in order to coordinate curriculum planning and development activities, and to collect and disseminate curriculum materials. NNCCVTE was later reduced to six Curriculum Coordination Centres located in Illinois, Oklahoma, New Jersey, Washington, Mississippi, and Hawaii (Simpson, 1973; Kelly and Law, 1978).

In 1978, NCRVE established the Resources in Vocational Education (RIVE) database, originally named Abstracts of Instructional Materials in Vocational and Technical Education/Abstracts of Research Materials in Vocational and Technical Education (AIM-ARM), to track projects, plan and evaluate programs, set priorities, eliminate duplication, and to assist planning and policy making in vocational education. Initially, the activity of collecting and disseminating information on curriculum materials was undertaken by manual searches of catalogues, microfiche and other resources. As a result of a cooperative effort by the six Curriculum Coordination Centres and NCRVE, the Vocational Education Curriculum Materials (VECM) database was developed to improve the efficiency and cost effectiveness of this activity. The VECM database was initiated through a feasibility study in which 150 records were entered into the database (Chase, 1982).

Materials, from which information is to be entered into the VECM database, are submitted to the Curriculum Coordination Centers by authors, state education agencies, institutions of higher education and other educational organisations. Documents for entry into the RIVE database are collected by NCRVE from state education agencies by means of a network of state program improvement officers, the Office of Vocational and Adult Education in the United States Department of Education, institutions of higher education, and other education organisations. The policy for selecting curriculum materials for entry into the VECM database is based on a set of five criteria: they must be intended for classroom use in vocational or technical education; they must be available nationally within the United States; they must be developed or published within the last eight years; they must be available in either print or non-print forms; and they must be in the public domain, except for microcomputer courseware. The RIVE database covers projects in all fields of vocational education, although special emphasis is given to the research, personnel development, and curriculum development activities funded under the Carl D. Perkins Vocational Education Act of 1976.

The *Classification of Instructional Programs*, a listing distributed by the National Center for Education Statistics of the Office of Educational Research and Improvement in the United States Department of Education, is used to index records for the VECM database. Terms selected from the *Thesaurus of ERIC Descriptors* and the *ERIC Identifier Authority List* are used to index records for the RIVE database. Documents for entry into the VECM database are screened, indexed, abstracted and entered by the Curriculum Coordination Centres. Documents for entry into the RIVE database are screened, indexed, abstracted and entered by NCRVE. Information is entered and searched in the VECM database within either numeric and non-numeric fields, as illustrated in the sample record presented as Figure 7.

The VECM and RIVE databases are only accessible online. BRS Information Technologies provided public access to the RIVE database in 1978, and to the VECM database late in 1982. No microforms are produced for either the VECM or RIVE databases. Source documents of records contained in the VECM database are available from the Curriculum Coordination Centers, state vocational education resource centres, or one of the consortia that develop or sell vocational education materials. Source documents are not available for the RIVE database.

The VECM and RIVE databases are widely used in the United States, and can be accessed in foreign countries through gateway services offered by BRS Information Technologies. Fourteen state agencies, responding to the survey, provided information about their use of the VECM database. The state education and other agencies in Alabama, Delaware, Kentucky, the North Dakota State Board of Vocational Education, South Dakota, Washington and Wisconsin, indicated they were presently using the VECM database. The state education agencies in Arkansas, California, Kansas, Nebraska, South Carolina, Utah and Vermont indicated they had not used the VECM database.

FIGURE 7

SAMPLE RECORD FROM THE VECM DATABASE

```
AN  008253.
TI  Automotive Service Technicians Cluster.
YR  1989.
SA  Skills Training and Education Program.
    PO Box 4839.
    Montgomery, AL 36103-4839.
ST  Alabama.
DV  Skills Training and Education Program.
    PO Box 4839.
    Montgomery, AL 36103-4839.
    Rickicki, John.
SM  Trade-Industrial.
    Mechanics-Repairers-47.
    Vehicle-Mobile-Equipment-Mechanics-Repairers-47.06.
    Automotive-Mechanics-47.0604.
EL  13-14.
IU  Student; Teacher.
SP  Regular.
PM  Curriculum Guide; Teaching Guide; Competency-based; Task Analysis.
FO  182 pp.
DN  The Curriculum and Instruction Unit consists of lesson plan guide, a list of modules and tasks,
    task assignments by existing occupations, test items (fill in the blank and T/F), key words,
    and steps to follow in completing the task.
CI  Contact the developer for copyright information.
AV  Loan. Mr. John Rickicki.
    PO Box 4839.
    Montgomery, AL 36103-4839.
    (205) 242-5852.
AA  Copies have been sent to all curriculum centers.
```

Key: Numeric fields are Accession Number (AN), Update Code (UP), and Year of Publication (YR). Non-numeric fields, searched by free text are Title (TI); Sponsoring Agency (SA); State (ST); Developer (DV); Descriptive Note (DN); Availability (AV); and Additional Availability (AA). Non-numeric fields, searched by the controlled vocabulary are Subject Matter Descriptors (SM, SU); Educational Level (EL); Intended User (IU); Student Target Population (SP); Print Material (PM); Nonprint Media (NM); and Curriculum Center Code (CC).

8.2.4 Educational Products Information Exchange Institute

Formerly a division of the Institute of Educational Development, Educational Products Information Exchange (EPIE) Institute was established as an independent agency in August 1967 with a foundation grant from the United States Office of Education (Komoski, 1967). Provisionally chartered in 1967, and permanently in 1975, by the University of the State of New York, EPIE Institute is governed by a Board of Trustees, and supported by a National Advisory Board. EPIE Institute is a non-profit, consumer-supported organisation funded by membership subscriptions, revenues from registration fees and sales of services, products and publications, and occasional nonrestrictive grants from private foundations and public agencies. EPIE Institute operates six agencies: Executive Offices based in Water Mill, New York; a Development and Research Office based at Teachers College, Columbia University; a Software Evaluations Office based at C.W. Post Campus, Long Island University; a Northeastern Projects Office based in Dresden, Maine; a Midwestern Projects Office based in Clayton, Missouri; and a Western Projects Office based in

Kenwood, California. EPIE Institute's mission is to provide consumer protection for students and teachers by exchanging information on educational products in all fields for all educational levels.

Between 1967 and 1971, EPIE Institute documented that 99 percent of 200,000 curriculum materials catalogued were not being revised on the basis of feedback gathered from learners. In 1971, EPIE Institute testified to this effect at hearings of the Select Subcommittee on Education of the Committee on Education and Labor of the House of Representatives held to define the role for the proposed National Institute of Education (Komoski, 1971a; Komoski, 1971b). Between 1972 and 1977, EPIE Institute supported legislative efforts in California and Florida to enact requirements for learner verification and revision, formed a National Learner Verification and Revision Task Force in 1974 to specify guidelines, and supported the development of model legislation in Virginia, Michigan, and Maryland (Educational Products Information Exchange Institute, 1980b). During 1974 and 1975, EPIE Institute conducted the National Survey and Assessment on Instructional Materials (NSAIM), in which data were gathered from a nationally stratified sample of more than 12,000 teachers. It was found that curriculum materials were used between 90 and 95 percent of teaching time, which included the use of textbooks for 70 percent of teaching time (Educational Products Information Exchange Institute, 1977). These early studies provided significant research evidence on which EPIE Institute based its subsequent program, aimed at improving the quality of educational products.

Working with the Office of Evaluation Research at the University of Illinois at Chicago Circle between 1970 and 1972, EPIE Institute conducted a project to evaluate curriculum materials, in which an instrument was developed and tested by Maurice Eash, the director of the Office of Evaluation Research. This instrument was then adopted by EPIE Institute as a prototype for instruments it subsequently designed for analysing educational products. Based on Ralph Tyler's objectives model of curriculum development, these instruments provide the scope to analyse a curriculum material in terms of four basic elements of curriculum design: the intents; the contents; the teaching-learning methodology; and the means for student assessment. Once a curriculum material has been analysed in terms of this model, evaluative judgments are made about its 'goodness of fit' with an educational program. 'Goodness of fit' takes the form of determining internal congruence, which refers to the degrees of congruence between the four elements of the curriculum and among the constituents of each element, and external congruence, which refers to a measure of the 'goodness of fit' between the elements of the curriculum and the environment in which the curriculum material will be implemented.

Prospective analysts, employed by EPIE Institute, are required to complete a training and certification program by applying the evaluative instruments EPIE Institute uses, and by practicing their application on a number of products. Once trained, prospective analysts may apply for certification by completing an analysis of a designated product, which is then compared to a 'model' analysis by a three-person, evaluator certification committee. The trained analysts form a network in cooperating schools and other educational institutions across the United States. Since 1973, EPIE Institute has also provided workshops and other professional development activities to train teachers to select and evaluate curriculum materials. These include the Packaged Training Workshop in Instructional Materials Selection developed between 1978 and 1979, a set of ten modules developed and field-tested in New York schools during the Teacher Information Exchange (TIE) project which ran between 1980 and 1982, and more recently a module for training in relation to the Integrated Instructional Information Resource (Educational Products Information Exchange Institute, n.d.).

EPIE Institute's information service is operated by collecting materials and equipment from commercial publishers, state departments of education, other educational organisations, teachers, and media specialists across the United States. The selection policy, applied by EPIE Institute, is based on comprehensive coverage of materials within particular subject areas. Various criteria are used to screen comprehensive categories of materials and equipment for inclusion or exclusion. Each material is analysed independently by two certificated analysts using the appropriate EPIE instrument. An experienced, former analyst synthesises the resulting analysis into prose form by monitoring the accuracy and reliability of judgments. Finally, an editor, a former analyst and synthesiser, edits the analysis.

During the early 1970s, EPIE Institute reported curriculum design analyses of printed curriculum materials and audiovisual materials in EPIE Materials Reports, and analyses of educational equipment in EPIE Equipment Reports. The EPIE PRO/FILES system was developed between 1977 and 1981 by EPIE Institute's Western Projects Office as a means of continually updating the printed EPIE Reports. Funded by a grant from the Exxon Foundation, EPIE Institute and the Microcomputer Center at Teachers College, Columbia University, collaborated to develop the Micro-Courseware PRO/FILES during 1981. This work was continued during 1982 and 1983 by EPIE Institute and the Consumers Union of the United States, and was extended with the Microcomputer Hardware PRO/FILES.

With funding provided in 1985 by the Ford Foundation, the Carnegie Foundation and the Richard Lounsbury Foundation, EPIE Institute developed a database, the Integrated Instructional Information Resource (IIIR), as a means of integrating the various EPIE PRO/FILES, with the intention that the IIIR database would form a resource for curriculum planning, alignment, and management. As stated by Komoski (1987), the IIIR database may be used to support six curriculum goals: building locally developed curricula by using a special curriculum design spreadsheet; analysing, correlating and comparing subject matter content or cognitive processes embedded in curriculum materials; documenting and tracking the evolution of curriculum thinking and practice over time within an educational system; using state and nationally recommended curriculum standards to inform local curriculum development; presenting information on mediated learning experiences provided by print-based, computer-based, video-based, and multimedia-based materials; and presenting information about nonmaterials-based learning experiences. By adapting the process of curriculum alignment, developed by the Southwest Regional Laboratory for Educational Research and Development (SWRL) and the Los Angeles Unified School District in 1979, EPIE Institute applied the IIIR database to provide the Curriculum Alignment Services for Educators (CASE) as a nation-wide service for mathematics in grades K to 8 during 1986. Other curriculum areas were added to the service, so that CASE became fully operational in 1990 covering mathematics, science, language arts, reading and social studies.

EPIE Institute employs curriculum consultants to coordinate CASE. Prospective clients are provided with information intended to focus the requirements for a search of the IIIR database on three aspects: matching the content and process topics stated in the school's curriculum guide with tests, textbooks and supplementary materials being used in the school; relating the topics in which students are performing poorly to specific content and process topics; and using these to identify components of available materials that need to be re-examined. The consultant and the clients are then able to identify and code particular topics with IIIR Curriculum Descriptors, specified by curriculum advisory panels. Used for searching the IIIR database, the controlled vocabulary consists of a set of concept-referenced descriptors, IIIR Curriculum Descriptors, specified as numeric codes, which are applied to code concepts matched to clients' customised requirements from their curriculum guides and materials, as well as curriculum materials analysed by EPIE Institute. An example of a search of the IIIR database is demonstrated in the CASE study reproduced as Figure 8.

FIGURE 8

THE INTEGRATED INSTRUCTIONAL INFORMATION RESOURCE (IIIR)

An example of a search of the IIIR database is demonstrated in the CASE study, provided to the Chino School District in California, reproduced below. The study focused on a problem of alignment at the grade 6 level. The procedures for using the IIIR database to solve this problem are presented as a sequence of seven steps: first, the Chino School District's mathematics objectives, coded with IIIR Curriculum Descriptors, were entered into the IIIR database; second, information on two resources (the Addison Wesley Mathematics textbook, and the Stanford Achievement Test) being used in the Chino School District's mathematics program were entered into the IIIR database; third, ten topics that the Chino School District identified as critical for improvement of student performance, were coded with IIIR Curriculum Descriptors and entered into the IIIR database; fourth, data from a search of the IIIR database were displayed as a three-column table with the columns showing the percentage of attention paid to each topic in the Chino mathematics curriculum guide, the Addison Wesley mathematics textbook, and the Stanford Achievement Test; fifth, topics were identified that are inadequately covered by the textbook and the test in light of the attention paid to those topics in the Chino mathematics curriculum guide; sixth, a search of the IIIR database was undertaken to identify specific resources (software) that compensate for the topics inadequately covered in the existing textbook; and finally, one of the identified resources was selected for display of detailed descriptive information from the IIIR database.

```
Welcome to: Integrated Instructional Information Resource (IIIR)
            MATHEMATICS K - 8
1. Compare resources
2. Search by topic for resources
3. List resources
4. List topics
5. Set up
6. Help using IIIR
Enter your Choice ... 1
COMPARE RESOURCES
Enter resource name and number
*Chino Curriculum Guide
<<< SERIES >>>
1. 1985 CHINO, CALIF MATH CURRICULUM
Enter menu number ... 1
<<< MATERIAL >>>
1. CHINO, CALIF MATH CURRICULUM (specific to grade 6)
Enter menu number ... 1
Do you want all topics correlated to this resource included? ... No
Enter resource name, number or Done ...
*Addison Wesley
<<< SERIES >>>
1. 1983 MATHEMATICS IN OUR WORLD
2. 1985 ADDISON WESLEY MATHEMATICS
Enter menu number ... 2
<<< MATERIAL >>>
1. ADDISON WESLEY MATHEMATICS (specific to grade 1)
2. ADDISON WESLEY MATHEMATICS (specific to grade 2)
3. ADDISON WESLEY MATHEMATICS (specific to grade 3)
4. ADDISON WESLEY MATHEMATICS (specific to grade 4)
```

FIGURE 8
(continued)

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5. ADDISON WESLEY MATHEMATICS (specific to grade 5)
6. ADDISON WESLEY MATHEMATICS (specific to grade 6)
7. ADDISON WESLEY MATHEMATICS (specific to grade 7)
8. ADDISON WESLEY MATHEMATICS (specific to grade 8)
9. ADDISON WESLEY MATHEMATICS (specific to grade K)
Enter menu number ... 6
Do you want all topics correlated to this material to be included? ... No
Enter resource name, number, or Done ...
*Stanford Achievement Test
<<< SERIES >>>
1. 1982 STANFORD ACHIEVEMENT TEST
Enter menu number ... 1
<<< MATERIAL >>>
1. STANFORD ACH TEST, INTERMED 1, FORM E, GR 4.5 - 5.9
2. STANFORD ACH TEST, INTERMED 2, FORM E, GR 5.5 - 7.9
3. STANFORD ACH TEST, LEVEL 1, FORM E, GR K.0 - K.9
4. STANFORD ACH TEST, LEVEL 2, FORM E, GR K.5 - 1.9
5. STANFORD ACH TEST, PRIMARY 1, FORM E, GR 1.5 - 2.9
6. STANFORD ACH TEST, PRIMARY 2, FORM E, GR 2.5 - 3.9
7. STANFORD ACH TEST, PRIMARY 3, FORM E, GR 3.5 - 4.9
Enter menu number ... 2
Do you want all topics correlated to this material to be included? ... No
Enter resource name, number, or Done ...
*Done
Please choose the topics you would like to correlate, enter a return after each topic number, enter a
blank line when complete ...
1640
3020
6110
6740
7100
6000
3410
3510
6470
8600
There are 10 topics selected for this report.
Would you like your printer turned on?
*Yes
Date: 02/18/86
        COMPARISON REPORT BY TOPIC
DESCRIPTIONS OF TOPICS SELECTED
1640 PRIME FACTORIZATION: WHOLE NUMBERS
3020 DECIMALS DEVELOPED IN RELATION TO COMMON FRACTIONS
        (DENOMINATORS POWERS OF TEN)
6110 COMPUTATION: MULTIPLICATION OF DECIMALS
6740 COMPUTATION: DIVISION OF DECIMALS
7100 RATIO (SEE 07440)
6000 PERCENT DEVELOPED THROUGH USE OF RATIOS
3410 ESTIMATION: SOLUTIONS IN COMPUTATION
3510 LINEAR ALGEBRAIC EQUATIONS IN ONE VARIABLE
6470 ANGLES, KINDS OF ANGLES, REGIONS FORMED BY ANGLES
8600 OPERATIONS AND CONVERSIONS WITHIN A SYSTEM OF MEASUREMENT RELATED
     TO DENOMINATE NUMBERS
```

FIGURE 8
(continued)

```
Column          Grade
1.              6       (1985) CHINO, CALIF MATH CURRICULUM, CHINO S.D., CALIF
                        (CURR  GUIDE)
2.              6       (1985) ADDISON WESLEY MATHEMATICS, ADDISON WESLEY
3.                      (1982) STANFORD ACH TEST, INTERMED 2, FORM E, GR 5.5 - 7.9
# ... Number of occurrences of this topic in the material.
% ... Number of occurrences of this topic in the material.
                Column #1            Column #2            Column #3
                #      %             #      %             #      %
01640           1      1.9           0      .0            0      .0
03020           2      3.8           0      .0            1      .8
03410           1      1.9           4      1.0           0      .0
03510           1      1.9           6      1.5           0      .0
06000           1      1.9           4      1.0           0      .0
06110           2      3.8           0      .0            0      .0
06470           1      1.9           9      2.3           3      2.5
06740           3      5.8           0      .0            0      .0
07100           1      1.9           0      .0            1      .8
08600           6      11.5          9      2.3           1      .8
Topics covered:        10                   5                    4
Total occurrences:     19                   32                   6
The following topic(s) may be "weak"
In column 2:
1640 PRIME FACTORIZATION: WHOLE NUMBERS
3020 DECIMALS DEVELOPED IN RELATION TO COMMON FRACTIONS
          (DENOMINATORS POWERS OF TEN)
6110 PERCENT DEVELOPED THROUGH USE OF RATIOS
6740 LINEAR ALGEBRAIC EQUATIONS IN ONE VARIABLE
7100 ANGLES, KINDS OF ANGLES, REGIONS FORMED BY ANGLES
8600 OPERATIONS AND CONVERSIONS WITHIN A SYSTEM OF MEASUREMENT RELATED
          TO DENOMINATE NUMBERS
In column 3:
01640 PRIME FACTORIZATION: WHOLE NUMBERS
03020 DECIMALS DEVELOPED IN RELATION TO COMMON FRACTIONS
          (DENOMINATORS POWERS OF TEN)
03410 COMPUTATION: MULTIPLICATION OF DECIMALS
03510 COMPUTATION: DIVISION OF DECIMALS
06000 RATIO (SEE 07440)
06110 PERCENT DEVELOPED THROUGH USE OF RATIOS
06740 LINEAR ALGEBRAIC EQUATIONS IN ONE VARIABLE
07100 ANGLES, KINDS OF ANGLES, REGIONS FORMED BY ANGLES
08600 OPERATIONS AND CONVERSIONS WITHIN A SYSTEM OF MEASUREMENT RELATED
          TO DENOMINATE NUMBERS
Would you like to identify resources that address weak topics?
*YES
What type of resources would you like identified?
1. Text
2. Software
3. Film
4. Video
5. Other courseware
6. Tests
Enter menu choice(s) ... 2
Which weak topics should be included in the search?
1. Weak topics in column 2
```

FIGURE 8
(continued)

```
2. Weak topics in column 3
Enter menu choice ... 1
The following resources address the weak topics in your comparison. Enter a D after each listing if
you would like to see a description. Enter a return if not.
1640 PRIME FACTORIZATION: WHOLE NUMBERS
Title: Advanced Math Skills, Levels 1 & 2
Publisher: Random House
Section(s): 22, 25
*
Title: Factoring Whole Numbers
Publisher: Quality Educational Designs
Section(s): 5, 6, 7, 8
*D
3020 DECIMALS DEVELOPED IN RELATION TO COMMON FRACTIONS
              (DENOMINATORS POWERS OF TEN)
Title: Advanced Math Skills, Levels 1 & 2
Publisher: Quality Educational Designs
Section(s): 68, 69
*
Title: Decimals
Publisher: Eduware Services
Section(s): 2
*
Title: Fractions
Publisher: Quality Educational Designs
Section(s): 4, 5
*
6110 PERCENT DEVELOPED THROUGH USE OF RATIOS
Title: Advanced Math Skills, Levels 1 & 2
Publisher: Random House
Section(s): 19, 20
*
6740 LINEAR ALGEBRAIC EQUATIONS IN ONE VARIABLE
Title: Mission: Algebra
Publisher: Design Ware
Section(s): 1
*
7100 ANGLES, KINDS OF ANGLES, REGIONS FORMED BY ANGLES
Title: Geoboard Geometry & Measurement
Publisher: Quisenaire
Section(s): 4
*
DESCRIPTION(S) REQUESTED
1640 PRIME FACTORIZATION: WHOLE NUMBERS
Title: Factoring Whole Numbers
Publisher: Quality Educational Designs
Section(s): 5, 6, 7, 8
- Program Section -             - Section # -        - Topic Code -
1A Factor Pairs                       1                   1600
1B The Rectangle Game                 2                   1600
2A Pairs and Squares                  3                   1600
2B Guess and Test                     4                   1600
3A Primes and Composites              5                   1610
                                                          1620
                                                          1640
```

FIGURE 8
(continued)

3B The Sieve of Erastosthenes	6	1610 1640
4A Exponents	7	1300 1640
4B How Many Factors	8	1300 1640
5A Highest Common Factor	9	1630
5B The Euclid Game	10	0240
6A Least Common Multiple	11	1680
6B Factoring Finale	12	1300

NOTES TO THE TEACHER:
This program is a mixture of instruction, practice and games. It can be used by individuals or small groups.
Avoid the onscreen introduction if possible: demonstrate the essentials of the program to your students without their using the introduction.
Several lessons require manipulative tiles made of cardboard, plastic or paper. Be sure to have these ready for your students especially if these lessons are their first acquaintance with factors.
Allow around twenty five minutes or more for each regular lesson (Part A), longer for the game (Part B).
It will take you about an hour to familiarize yourself with the program.
WOULD YOU LIKE TO PREVIEW THIS RESOURCE?
*YES

EPIE Institute originally published two quarterly reports: *EPIE Materials Report*; and *EPIE Equipment Report*. Since the advent of the EPIE PRO/FILES system, *EPIE Report/Materials* and *EPIE Report/Equipment* have been published as annual state-of-the-art reports. In 1984, public online access to the EPIE-CU Micro Courseware-Hardware PRO/FILES was provided on the EPIE ON-LINE database through the videotex information service offered by CompuServe Information Service. EPIE Institute also publishes several other guides and newsletters. The Teachers College Press first published *The Educational Software Selector* (TESS), comprising annotated lists of classroom-oriented and administrative software, in 1984. EPIE Institute first published the *Parent's Guide to Highly Rated Educational Software* in 1988. The *EPIEgram* newsletter was first published in 1972 and then as two separate newsletters, *EPIEgram Materials* and *EPIEgram Equipment* in 1978, with a third newsletter, *MICROgram*, being added in 1982, so that all three are published monthly from October through to June.

The intended users of EPIE Institute's services include school board members, administrators, teachers, media specialists, parents, and others concerned about the quality of educational products. The American School Board Journal (1975) reported that 1,500 of the 22,000 school districts in the United States and Canada received services provided by EPIE Institute, whilst the School Library Journal (1981) reported that the number of school districts served by EPIE Institute had increased to 2,000. Eighteen state and territory education agencies, responding to the survey, provided information on their use of the services of EPIE Institute. The states of Delaware, Florida, Washington, and the territory of Virgin Islands indicated they were presently using the services of EPIE Institute, whilst those of Nebraska, Utah and Wisconsin indicated they had used these services in the past. The Florida Department of Education indicated that local school districts had used EPIE Institute's services, namely its newsletters, printed reports and the IIIR database, for from 15 to 19 years. The Washington Office of the Superintendent of Public Instruction indicated that local school districts used EPIE Institute's services, namely its newsletters, PRO/FILES system, printed reports, TESS, and the IIIR database, which was rated as probably useful for supporting curriculum development. The Virgin Islands Department of Education indicated it had used EPIE Institute's services, namely its newsletters, printed reports, and TESS in the past, whilst the IIIR database, which was being used at present, was rated as probably useful for supporting curriculum development. The state education and other agencies of Alabama, Arkansas, California, Connecticut, Hawaii, Kansas, Kentucky, the North Dakota State Board of Vocational Education, South Carolina, South Dakota and Vermont indicated they had not used EPIE Institute's services.

8.2.5 Scottish Council for Educational Technology

Founded in 1975, the Scottish Council for Educational Technology (SCET), a registered company limited by guarantee, is governed by a council made up of members appointed by the Secretary of State for Scotland and the Convention of Scottish Local Authorities. SCET, which is based in Glasgow, Scotland, is funded by contractual grants from the Scottish Office Education Department, and by revenues from registration fees and sales of services, products and publications. The mission of SCET is to promote effective teaching and learning, communication of good practices, staff development in education, industry and community services, and evaluation of present and future activities in educational technology.

In 1979, the Scottish Microelectronics Development Programme (SMDP) was initiated by the Scottish Office Education Department to fund the provision of microcomputer systems to schools in Scotland. SMDP also funded 68 education institutions across Scotland to develop projects involving the application of microcomputers in particular subject areas. SMDP promoted awareness by developing training materials and computer-assisted curriculum materials, liaising with industrial and community groups, establishing a library of microcomputer software and hardware and an information service at SCET, and forming a working group in special education (Walker and Megarry, 1981; Educational Computing, 1982; Morris, 1982; Scottish Microelectronics Development Programme, 1984).

These developments provided the basis for initiating the Special Educational Needs Information Exchange Project (SENIEP) at SCET in October 1983, funded by the Department of Trade and Industry as a pilot project for a two-year period. The main purpose of SENIEP was to develop and evaluate a database for exchanging information among relevant professionals in Scotland on microcomputer hardware and courseware related to special educational needs. The Special Educational Needs Database (SEND) was developed during this period through consultations between SENIEP staff and special educational needs experts. Martin (1986) reported that SENIEP, which provided the pilot study for trialling SEND, consisted of five main phases: developing SEND; supplying 47 project centres with hard-wired modems and terminal software for BBC microcomputers to access SEND; providing on-site training, technical manuals and subsequent support in using SEND to personnel at the project centres; encouraging the project centres to use interactive facilities of the system to provide feedback to SENIEP and the other project centres; and conducting both formative and summative evaluations of SENIEP.

An important outcome of SENIEP was a decision to extend public access to SEND throughout the United Kingdom, which was realised late in 1985 through online access as part of the Prestel Education Service provided by British Telecom, and later through CAMPUS 2000 developed by Prestel and The Times Network Systems. This extension led to the recognition of a need for additional means to accomplish dissemination of SEND in England, Wales and Northern Ireland, and to trial and install components of SEND within the National Educational Resources Information Service (NERIS). A project officer was appointed by SCET to the Microelectronics Education Support Unit, now the National Council for Educational Technology, at the University of Warwick in Coventry for a sixteen-month period between January 1988 and April 1989 to accomplish these tasks. However, the plan to integrate SEND and the NERIS database was discontinued.

In 1993, SCET incorporated SEND within a new database, ASSIST, which provides information on curriculum resources. ASSIST includes information on curriculum materials covering the subject areas of English, Mathematics, Religious and Moral Education, Expressive Arts, Technology, Special Educational Needs, Health Education, and Assessment. In addition, ASSIST also includes information about past and present Scottish research projects based on information from a range of organisations, and professional development materials collated through the Association for Staff Development in Scottish Education. Furthermore, the ASSIST database is supported by a Key

Documents Digest, an abstracting service of recent printed publications covering key issues relating to Scottish education.

Information contained in the ASSIST database is obtained from five sources: from users of the ASSIST database, telephone or letters; documents supplied by producers; by research from newsletters, books, bulletins, information sheets, newspapers, journals, conference proceedings, and articles; from SCET staff members attending conferences, exhibitions, schools, education centres, and personal contacts; and from the Scottish Consultative Council on the Curriculum, Scottish Office Education Department, Scottish Examination Board, Scottish Council for Research in Education, and the Association for Staff Development in Scottish Education. SCET staff includes all materials coming to its attention. The editor indexes information according to the description offered in documents. All unsupported information is edited out and independent, evaluative comment is included, where this is stated. The controlled vocabulary consists of terms relevant to the fields of computer technology and education, as illustrated in the sample record presented as Figure 9.

FIGURE 9

SAMPLE RECORD FROM THE ASSIST DATABASE

Granny's Garden

Supplier:	4MAT Educational Software, Linden Lea, Rock Park, Barnstaple, Devon EX32 9AQ	
Computer:	BBC B	Tape: 10.00 pounds sterling + VAT
Format:	Disc/Tape	Disc: 12.00 pounds sterling + VAT
Description:	adventure program with dragons, witches etc. Task is to find missing children by visiting locations. Help given by creatures within program. Uses double-height characters and will accept incorrectly-spelt instructions. Accompanied by 16-page booklet.	
Special need:	moderate learning diffs/deaf	
Age range:	6-11	
Teaching/ Learning area:	cognitive and perceptual skills; creative skills	
Program style:	discovery (simulation)	
Program use:	institutional/group	
Presentation:	text and graphics	
Control:	BBC keyboard	
References:	Educational Computing, November 1983 Times Educational Supplement 18/11/83	
Where used in Scotland:	St. Andrew's College, Bearsden Whins of Milton School, Stirling Donaldson's School for Deaf, Edinburgh Comment: "... enormous success"	

SEND was only accessible online. A limited number of Scottish users could access SEND on SCET's private videotex system. Late in 1985, public online access was offered through the Prestel Education Service provided by British Telecom, and then through CAMPUS 2000. The ASSIST database is only available on CD-ROM. Source materials are available from distributors, as detailed in records, but not on microform.

8.2.6 NERIS Trust

The need for the National Educational Resources Information Service (NERIS) was identified as an outcome of a study carried out in 1985 by the Council for Educational Technology. This led the Industry-Education Unit of the Department of Trade and Industry to fund a two-year project to develop NERIS in April 1986. The information-gathering network and the on-line database were planned, developed and implemented during this period to provide a cost-effective information service of high quality for the educational community in the United Kingdom on curriculum resources in all subject areas that are relevant to age groups ranging from five-year-olds to eighteen-year-olds. In April 1988, this development project was extended with additional funding, and NERIS Trust, established as a company limited by guarantee, was created to help the project become self-funding. From 1989, NERIS Trust, which was based at the Open University, Woburn, England, funded its operation through contract work, sponsorship, and a subscription service.

Following the General Election of June 1987, the re-elected Conservative government enacted the Education Reform Act, which provided for a National Curriculum. In January 1989, the Secretary of State for Education and Science funded NERIS Trust with a special purpose, three-year grant to develop a file of National Curriculum information within the NERIS database, and to link curriculum documents on the database to the statutory orders mandating the National Curriculum.

In April 1989, the Department of Trade and Industry provided a three-year grant to fund data-gathering activities at approximately forty centres of educational expertise in universities, professional associations, other educational organisations, and commercial organisations with expertise in educational publishing. These centres, known as NERIS Nodes, were contracted by NERIS Trust between April 1989 and April 1992 to gather and process information onto the NERIS database. Together with other information providers, the NERIS Nodes acquired, selected and processed information on their own curriculum resources, as well as those from constituent organisations within particular subject areas. NERIS Trust also maintained three information and processing centres within cooperating agencies, which coordinated data-gathering activities within Wales, Scotland, and Northern Ireland to support curriculum development in these regions.

A controlled vocabulary was developed as a collaborative project by a group of information specialists, who consulted with a wide range of educational opinion in order to take account of changes in terminology brought about by the introduction of the National Curriculum. Developed with the assistance of a grant from the Department of Education and Science, the first edition of the *NERIS Curriculum Thesaurus* was published in 1990. The controlled vocabulary, in the form of the NERIS Thesaurus, was used to provide search terms and was available in two versions: in a short form, as the *NERIS Curriculum Thesaurus*, the printed version, recommended for off-line search preparation; and in a long-form, as the NERIS Thesaurus, which was available online and on CD-ROM to develop detailed searches.

In 1992, NERIS Trust conducted an evaluation of the CD-ROM version of the NERIS database, designed to assess its use, identify requrements for coverage of curriculum resources, and determine the quality and cost of the information service. Data collected by questionnaire from 300 of 1,300 clients, indicated that the NERIS database was accessed most frequently by school librarians, teachers, and students to identify curriculum resources mainly for science, geography, technology, history, and English. Clients accessed the NERIS database to identify information on a wide range of curriculum resources, preferring full-text forms and reviews of curriculum materials, and policy documents from education agencies. Clients also wanted information on a wide range of curriculum resources in subject matter not currently covered on the NERIS database. The survey also identified that most clients were satisfied with the quality of user guides and the CD-ROM search service, preferring that the current arrangements for distributing the NERIS database on CD-ROM be maintained, and indicating that the level of usage and cost were the main factors influencing renewal of their subscriptions.

In February 1993, the Department for Education and the Department of Trade and Industry withdrew two important grants for funding NERIS Trust. At a meeting held in London, the NERIS Board of Directors resolved to terminate the NERIS service late in April 1993. The public announcement of the service's termination brought forward expressions of interest in operating NERIS from a number of companies in the private sector, but negotiations proved unsuccessful by the end of this period. NERIS Trust was placed in liquidation during May 1993.

NERIS Trust's information service used more than 1,500 NERIS Information Providers, contracted from approximately 2,500 sources throughout the United Kingdom. Each NERIS Information Provider processed its own curriculum documents onto the NERIS database, and collected information about curriculum resources from other sources within its subject area. The policy for selecting materials to be included in the NERIS database was the responsibility of each NERIS Information Provider. Curriculum materials were analysed, and descriptions were prepared according to seven criteria: bibliographic information; descriptive information, providing a description of the content; information about availability; optional comments on the use of the material, including comments, reviews, and evaluations of the material by teachers; an optional text part, providing an extract, abstract, short description or example taken from the material; an optional extension part, used if the material was only available through the NERIS database, providing the full text of the material; and descriptor parts, providing indexing terms. Information professionals from NERIS Information Providers were trained in seminars by the NERIS staff to analyse and describe materials for entry into the NERIS database. The descriptions were then indexed with terms selected from the NERIS Thesaurus by information professionals, based at NERIS Trust in Woburn.

The NERIS database consisted of more than 1,500 files, each containing a set of records maintained by an Information Provider, which consisted of bibliographic records, as illustrated in the sample record presented as Figure 10, and occasionally included reports of field tests, part-text abstracts and full-text forms. Records in the NERIS online database were searched by either one of two modes: a basic search system, a beginner's mode providing step-by-step searching using keywords; and an extended search system, an expert's mode providing for keyword searching by commands.

Beginning in 1988, the NERIS database was accessed directly from a mainframe computer at the Open University, which served as the database host, or, for public online access through the Prestel Education Service provided by British Telecom, and later through CAMPUS 2000, although this was terminated in February 1992. Access for institutions of higher education was also provided through the Joint Academic Network (JANET), which connected users to the Open University's Videotex Service. The CD-ROM version of the NERIS database was developed during 1989, using a retrieval package developed by the Open University. In April 1990, the NERIS database was marketed to schools on a single CD-ROM. This form of delivery became more competitive financially with the introduction of local financial management in schools, as a consequence of the Education Reform Act. In September 1992, NERIS Trust began incorporating illustrations into the CD-ROM version on the full-text records, which comprised nearly 20 percent of the NERIS database, following development of a demonstration version held in a separate CD-ROM database. Source materials were available from distributors, as detailed in records, but not on microform.

By February 1993, the NERIS database was used by 2,300 subscribers, which included 29 percent of all secondary schools in the United Kingdom, consisting of the following regional representations: 24 percent of all secondary schools in England; 43 percent of all secondary schools in Wales; 64 percent of all secondary schools in Scotland; and 31 percent of all secondary schools in Northern Ireland. The low usage level in England was attributed to the replacement of bulk purchases of subscriptions, provided by local education authorities, with local financial management in schools. The greater use of the NERIS database in Wales, Scotland and Northern Ireland was a consequence of the regional focus provided by the presence of information and processing centres. In addition, the Scottish Office Education Department promoted the use of the NERIS database as a means of information provision as part of its curriculum reform efforts. The majority of subscribers used the CD-ROM version, and the on-line service was scheduled to close during 1993.

FIGURE 10

SAMPLE RECORD FROM THE NERIS DATABASE

TITLE: GCSE MODULAR MATHEMATICS
MEDIA: Booklet; teachers notes, worksheets, set of 3.
SERIES: FL South East Region
PUBLISHER: South East Region FL Project
PUBLISHED: 1991

FIGURE 10
(continued)

EDUCATIONAL CONTENT:

The titles available are: Money Management, Core Mathematics and Statistics. They have been written specifically for the SEG mature SCSE (modular), but will be of use to any other mature maths courses and mainstream GCSE. Each booklet includes, under individual topics:- explanatory notes of the relevant theory; worked examples; a few questions - three or four - to test the initial understanding of the students; at least one exercise to reinforce initial understanding. They have been written by a practicing teacher with special attention to language and student 'ease' of understanding. They lend themselves to student directed learning, a flexible/open learning approach or the more traditional teaching styles. They will 'stand alone' or can be supplemented by other materials. The materials have been piloted during 1990/91 at John Ruskin S.F.C.

The 'Core Maths and Money Management' booklets can act as revision guides for mainstream SCSE courses.

AGE PHASE: Teachers and advisors of 14 - post 16 age groups.

AVAILABILITY:

For further information. Contact: Brian Thomson

ADDRESS: John Ruskin S.F.C., Upper Shirley Road, Croydon, Surrey CR9 JAR

TEL: 081 656 0094

COST: 3.50 pounds sterling Money Management, 4.50 pounds sterling Core Maths, 3.50 pounds sterling Statistics including package and postage

This material has been produced by the National Flexible Learning Development Project and is intended for use in a student-centred context. Information and assistance on this point can be obtained from your Regional Flexible Learning Coordinator. Details of names, addresses and telephone numbers are available on NERIS. To find these search the database for the titles FL and REGIONAL and the media CONTACT.

CONTENT DESCRIPTORS:

MODULAR CURRICULUM
MATHEMATICS
GCSE
MONEY MANAGEMENT
STATISTICS
REVISION AIDS
FLEXIBLE LEARNING
LEARNING METHODS
OPEN LEARNING
PUPIL CENTRED LEARNING
INDEPENDENT LEARNING

TITLE DESCRIPTORS:

GCSE
MODULAR
MATHEMATICS
MODULAR MATHEMATICS
GCSE MODULAR MATHEMATICS
FL SOUTH EAST REGION

AGE PHASE DESCRIPTORS:

SECONDARY
UPPER SECONDARY
POST 16

MEDIA DESCRIPTORS:

PRINTED
BOOKLET
WORKSHEET
TEACHER NOTES

PUBLISHER DESCRIPTORS:

SOUTH EAST REGION FL PROJECT

ADMIN. DESCRIPTORS

FFLEX
RFL196
E199109
U199110
L199110

RECORD NUMBER

1037054353

8.2.7 United States Department of Education

In November 1991, the Office of Educational Research and Improvement (OERI) of the United States Department of Education convened a national forum of policy-makers and practitioners to discuss priorities and plans to increase the use of research-based information in relation to the National Education Goals. The plan, formulated by Assistant Secretary Diane Ravitch, to design an interactive electronic information system, titled Sources of Materials And Research about Teaching and Learning for Improving Nationwide Education (SMARTLINE), formed a major topic of the forum. It was proposed that SMARTLINE would form the first stage in the development of USA On-Line, an information service intended to support the national education reform strategy, America 2000, by providing educational information to people in their homes, schools, libraries and workplaces. It was intended that USA On-Line would consist of several components, and deliver information by a variety of media including video and broadcast technologies, laser disc, and CD-ROM. Through SMARTLINE, USA On-Line would assist local communities to identify and form strategies to promote improvement in teaching and learning, provide networks between different communities for users to share resources, experiences and information.

As proposed, the initial stage in developing SMARTLINE would involve a sequence of four activities: first, identifying and assembling a collection of existing education resources, such as ERIC on CD-ROM, materials from the National Center for Education Statistics, and reference directories to guide users to appropriate information sources; second, identifying and assembling current information, such as databases and other on-line resources; third, obtaining information from experts on teaching and learning; and fourth, providing computer hardware and software to establish SMARTLINE workstations at selected sites in each state for a pilot study. Once computer software was developed, which responded to general questions about teaching and learning, a further stage in the development of SMARTLINE would involve four activities. First, topics related to school improvement would be identified that could be of interest to teachers, administrators, parents and community leaders. Second, the results of research and statistical studies from various sources were synthesised using a standardised format. Third, access to SMARTLINE would be extended by providing sites in every school and public library in the United States. Fourth, new databases and links would be developed with other federal agencies, higher education institutions, and other education organisations. In its final form, SMARTLINE would provide a gateway to databases to be developed in the future as well as several existing databases: the files on the Educational Resources Information Center (ERIC) database; the National Diffusion Network (NDN) bulletin board; the Institutional Communications Network (INet), which facilitates communication, information-sharing and collaborative database development between OERI and the research and development centres, regional educational laboratories, ERIC, and NDN; the OERI PC-based toll-free bulletin board; ADVOCNET, which connects state departments of vocational and adult education; various networks provided by the National Science Foundation; and SpecialNet provided by GTE Education Services. Several databases and bulletin boards would be developed on INet, and then made available through SMARTLINE. SMARTLINE would also use the Internet, a collection of more than 400 interconnected networks, funded by the National Science Foundation. It was proposed that SMARTLINE would use the National Research and Education Network (NREN), a computer network linking research and educational institutions, government agencies and industry, after it superseded the Internet.

During the initial stage of its implementation, SMARTLINE would focus mainly on providing information for teachers and administrators in schools to assist them to make decisions about teaching and learning strategies, and parents and community leaders to make decisions about their children's education and schools. At a later stage, other groups, such as students, researchers and members of the general public, would be encouraged to use SMARTLINE. SMARTLINE would offer different modes for both beginners and experts to access and search the information system. In addition to on-line help and user manuals, OERI would provide a telephone helpline. Upon entry, users would be asked to identify their role, and would then be branched to the appropriate part of the system that was designed for that type of user. SMARTLINE would be designed to allow users to access successively more detailed levels of information as requested. SMARTLINE would provide information in the form of a concise report on a particular topic, including a synthesis of relevant research findings, examples of exemplary practices, names of experts, and citations to relevant documents from a range of education-related databases. SMARTLINE would include information on current government-funded research including statistical data, research and evaluation findings relating to teaching and learning, exemplary programs and schools, exemplary curriculum materials and guides, demonstration projects and practical applications of innovations from practitioners and community members, sources for help on particular topics, and opportunities for funding.

The quality of information contained on SMARTLINE would be maintained by establishing criteria indicating categories of validation, and ensuring that information obtained from a variety of sources would meet a set of standards for accuracy and balance, certification procedures for designating the status of practices and programs, and procedures for updating information periodically. OERI would also record inquiries about SMARTLINE, qualitative assessments resulting from meetings with users, and collect data on user satisfaction. SMARTLINE would contain a facility to monitor the nature and frequency of questions posed by users, thereby allowing OERI to determine future developments of new types and sources of information.

This plan was scaled down, however, and replaced in 1993 by a series of activities involving educational technology and information technology research, development, and demonstrations, such as the AskERIC service managed by the ERIC Clearinghouse on Information and Technology at Syracuse University, New York. Initiated in 1992, the AskERIC service was first introduced on state electronic teacher networks in New York, Texas and North Dakota, before being implemented progressively in other states and in Canada. AskERIC provides an information service for administrators, teachers, librarians and parents through the Internet using three options: a question and-answer service; a virtual library; and research and development projects. Clients use an electronic mail facility to initiate an enquiry about educational resources through the question-and-answer service. Within two days, an AskERIC information specialist sends a personalised mail response, providing a list of citations that deal with the topic and also refer to other Internet resources for additional information. Entered through the Internet, the virtual library provides electronically based resources in the form of lessons plans, searches of the ERIC database, and resources from the Cable News Network (CNN) Newsroom, a daily news broadcast for students supplemented by electronic curriculum guides for teachers, and the National Aeronautics and Space Administration (NASA). Users can contribute suggestions for prospective research and development projects to improve AskERIC. Current research and development projects are exploring such issues as multimedia development, ERIC on the Internet, and ERIC in full text.

8.3 Key Elements Affecting the Selection of Curriculum Materials

Several issues are important in determining the suitability of information services as a tool for selecting curriculum materials. These include the application of particular formats, namely micrographics, on-line information retrieval, videotex, and optical disks. Other variables, relating to various procedures for inputting and outputting information, including indexing and retrieval features, data structure, and interface design, also affect the selection process. Within educational settings, the variables of cost, accessibility, ease of use, timeliness, and scope are key factors in determining the suitability and use of information services for selecting curriculum materials. It is apparent that the interactions between these variables are complex, requiring examination which is outside the scope of this project. The selection process, however, may be affected in two ways by features associated with information services, which relate closely to the rationale for this project. The first way relates to the particular terminology and strategy employed in indexing and searching for records, which varies between on-line information retrieval, videotex, and optical disk systems. The second way relates to the evaluative approaches employed for analysing curriculum materials.

The nature of the controlled terminology applied to index information affects the capacity of users to search for relevant materials. The first information systems in education depended on adapting terms used in library cataloguing to provide the basis for word lists, which were then used as controlled terminologies. This approach was employed to develop the subject headings list used as the controlled terminology by ASCIS. Similar approaches were applied by NICEM and SCET in developing controlled terminologies suited to their particular databases.

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A further stage in improving the effectiveness of controlled terminologies for indexing and searching education-related databases occurred as the result of a series of projects undertaken by the United States Department of Education during the 1960s and 1970s to develop and revise the controlled terminology employed to index information included in the ERIC database. The process of thesaurus construction, undertaken during these projects, provided several thousand descriptors, the main terms used in the controlled vocabulary, which were constructed and formatted to cover subject content, educational level, age level, and publication types according to specific rules. Descriptors were also categorised into two types: narrower terms and broader terms used to indicate hierarchical relationships among descriptors so as to refine indexing and searching; and related terms as cross-references that are neither hierarchical nor equivalent but essential for informing users of alternative terms. In addition, 'used for' references were employed to solve problems of synonymy by directing searchers to preferred terms. Scope notes, brief statements indicating intended usage, appeared with certain descriptors selected according to specific criteria.

The resulting *Thesaurus of ERIC Descriptors* was subsequently adapted for use in other research-related information systems in education, because it provided greater thesaural control. This approach was applied by NERIS Trust to develop the *NERIS Curriculum Thesaurus*, which was available in two forms depending on the particular search strategy to be employed. Similar principles were adapted by EPIE Institute in developing IIIR Curriculum Descriptors, the controlled vocabulary used in the IIIR database, which consists of a set of concept-referenced descriptors specified as numeric codes.

An assessment of the evaluative approaches employed by these information providers for analysing curriculum materials, forms an important consideration relating to the validity of evaluative information provided as an aid for selecting materials. The principle of analysis employed by Curriculum Corporation, NICEM, NCRVE, SCET and NERIS Trust is based on presenting bibliographic records containing indexes of information relating to physical and educational aspects together with accompanying abstracts. Each abstract is of the indicative type, presenting a description as a guide to the content of the material. These abstracts vary from terse to extended reviews, whilst NERIS Trust also added optional, part-text extracts and full-text forms for particular materials which were unavailable commercially. The principle of analysis employed by these providers requires users to select appropriate materials by reading and analysing numerous records, and then synthesising this cumulative information to form judgments for selection. The time and effort required to accomplish this process is also exacerbated by lack of both clarity about criteria employed in analysing materials, and evaluative information aligning the materials to the curriculum.

These limitations are overcome in the evaluative approach employed by EPIE Institute to analyse curriculum materials, which permits qualitative information to be elicited for each of the elements of the curriculum - the intents, the contents, the teaching-learning methodology, and the means of student assessment - in terms of Tyler's objectives model of curriculum development. This capacity is extended in the IIIR database, which permits the user to interact data based on this approach between a set of six files of information about curriculum materials of various media by IIIR Curriculum Descriptors, so that elements of different materials are aligned and matched to the user's particular teaching and learning requirements. Furthermore, the interactive capacity of the videotex system providing the IIIR database allows local users to acquire a subset of the IIIR database, and add to that subset information on locally developed curriculum resources, teaching strategies, and so forth. In other words, the IIIR database performs the selection function by aligning materials of different media to the curriculum, thereby overcoming the restrictions of time, effort and expertise imposed on teachers involved in selecting appropriate materials for local needs.

8.4 Outcomes

This examination of several services, used to provide information about curriculum materials, has important implications for redesigning the information service for Australian schools. In particular, it identifies that a generic pattern for collecting, analysing and disseminating information about curriculum materials may be recognised from these descriptions. Primary documents and materials are collected from various sources, and selection policies, based on defined criteria for including and excluding particular materials, are applied prior to analysis. Most services are based in clearinghouses, in which information professionals abstract and index information, although other services train and contract teachers to conduct these activities. These services also rely on the application of state-of-the-art information technology to disseminate information efficiently, and sometimes also provide a document delivery service in source materials. Within this pattern, several information services have introduced innovative methods, techniques and practices for analysing curriculum materials, which bear further examination for adaptation to Australian conditions.

This conclusion, however, needs to be accepted with caution. It should be apparent to the reader from the previous chapters that the introduction of a redesigned information service for teachers is dependent on having successfully standardised and improved the quality of procedures used in Australian schools for selecting curriculum materials, preferably by linking these procedures to the national curriculum framework. An information service, applying these innovative methods, techniques and practices is likely to provide a valuable aid for the selection of curriculum materials, if its use is recommended as part of each local administrative unit's or school's selection procedure.

CHAPTER 9

CONCLUSION

The purpose of this chapter is to present Australian educational authorities with sets of recommendations, which relate to key elements of the process for selecting curriculum materials. These elements, which have been identified principally from an analysis of the key features of selection procedures employed by state education agencies in the United States, refer to six areas: the relationship between the curriculum and the selection of materials; the selection process; the role of developers and publishers of curriculum materials; public participation in the selection process; adoption and dissemination of information about curriculum materials; and the implementation of curriculum materials in classrooms.

The sets of recommendations, presented for each of these key elements, have been developed through a process of careful analysis of the findings reported in earlier chapters about the current situation in Australia and approaches applied in other countries, followed by a statement on prospective innovations based on a synthesis of information from all these sources supported by consideration of expert opinions about the potential improvements. Each set of recommendations is prefaced by a discussion of these aspects. These discursive passages, which are intended to illuminate various characteristics pertaining to the particular element, may also portray scenarios for introducing innovative methods, techniques and practices into the Australian context. These scenarios should be considered as merely illustrative, and not intended to circumscribe the nature of various model procedures, which could be applied to implement the recommendations.

Whilst each set of recommendations addresses specific aspects of a particular element, improvement in the selection process is only likely to occur if the recommendations for the six elements are considered collectively and implemented together. It is held that these elements represent the best understanding we have about the intrinsic components of an organised and sound decision-making process for selecting curriculum materials. Specification of these recommendations, however, does not support advocacy of a particular selection procedure. Instead, specification is intended to direct national policy-makers, state curriculum specialists, school principals, teachers and other interested people to apply the recommendations to develop model selection procedures to suit national, state-level and local-level settings.

9.1 Relationships between the Curriculum and the Selection of Materials

9.1.1 Overview of the Current Situation in Australia

The evidence presented in the earlier chapters suggests that the decision-making process for national collaboration in curriculum development evolved over a long period of time as a result of consensus-building achieved through collaborative curriculum projects of the 1960s and 1970s, such as ASEP and SEMP, and later through AEC during the 1980s. It involved representatives from the Commonwealth, state and territory education agencies participating on an equal footing, but failed to take into account potential contributions by groups and individuals outside this circle. Therefore, the interpretation by Marsh (1994) that a centralised decision-making process controlled the development of the national statements and profiles, in which subordinate groups carried out decisions made by superordinate groups, seems compatible with this pattern of decision-making. Consequently, exclusion of extensive consultation with the wider educational community was consistent with this particular decision-making process, although lack of time to complete the task of developing the national statements and profiles was a contributing factor.

Although there is little evidence to support a view that the nature of this process was influenced by initiatives to develop national curricula in foreign countries, the educational philosophy inherent in the national statements and profiles drew on outcome-based education approaches developed in the United States. Ellerton and Clements (1994) argued that mastery learning approaches, from which outcome-based education developed, were introduced into Australia during the 1970s culminating in federal, state and territory education agencies advocating these approaches by the close of that decade. In the late 1980s, outcome-based education approaches were linked by political conservatives to quality, whilst their advocacy by political radicals was based on equality of outcomes. The introduction by federal, state and territory bureaucracies in the 1980s of the principles of corporate management, to which outcome-based education approaches became associated, led to their incorporation within the nationally agreed curriculum framework and subsequent impact on school curricula. Application of this philosophy in the national statements and profiles involved incorporating the principles of outcome-based education, measurable and comprehensive characteristics for all students, and specification of learning outcomes.

Short-term planning appears to have guided the development of the national statements and profiles. Their development was preceded by preliminary research activities intended to identify comparability between the curricula in each of the states and territories. The development of the national statements and profiles was initiated by a pilot project to develop a national statement for mathematics, followed by concurrent projects to develop national statements and profiles for Science, Technology, English, and Studies of Society and the Environment. In an effort to make more efficient decisions and to reduce the effect of the time constraint, AEC appointed CURASS in August 1991 as a unitary superordinate group to direct development of national statements and profiles for the remaining three learning areas. In spite of the greater efficiency afforded by the work of CURASS, the completion of the task in June 1993 did not lead to the production of a concrete plan or procedures for revising the national statements and profiles. Although Marsh (1994) forecasted three possible scenarios for future national curriculum collaboration, namely, that new collaborative activities arising from implementation of the national statements and profiles, a more central role being played by Curriculum Corporation in coordinating curriculum activities between the states and territories, or that implementation may lead to formation of a new policy organisation to develop a new nationally agreed curriculum, there is no evidence at present of any of these projected scenarios emerging.

The exchange of curriculum resources between state and territory educational systems was seen by superordinate groups to be an important factor motivating national curriculum collaboration since its inception. Later, CURASS stated that the national statements provided an agreed basis for national development of curriculum resources for schools, teachers and students (Curriculum Corporation, 1994o). Few new strategies, however, have emerged to support the development or exchange of curriculum materials. Curriculum Corporation has continued the work begun by CDC in developing curriculum materials, and then disseminating them to schools. On the other hand, Curriculum Corporation has faced difficulty maintaining the electronic database of information on curriculum resources acquired from ASCIS. The only initiative undertaken during the period of national curriculum collaboration has been the development and publication of guidelines to assist non-commercial developers of new curriculum materials and interactive multimedia courseware.

9.1.2 Strategies for Improving the Match between the Curriculum and Materials

Several strategies for improving the match between the process of curriculum development and the selection of curriculum materials have been identified in this project. These strategies may be classified into two groups: procedural strategies, designed to ease the burden of work involved in developing curriculum frameworks and then selecting appropriate materials; and methodological strategies, intended to improve the match between the curriculum and supporting materials. Discussion about these issues focuses on developments occurring in foreign countries, principally in the United States.

9.1.2.1 Adoption Cycle

The concept of the adoption cycle, so prominent in statewide adoption states in the United States, appears to have evolved from the contract terms signed by education officials with publishers to provide state-adopted materials for specified periods. Such contract terms determined the length of adoption cycles. Later, the selection of materials was rotated between different subject areas, in order to ease the burden of work involved in the review of large quantities of curriculum materials. Once elaborate centralised adoption procedures had become institutionalised in these states, the use of the adoption cycle became an important means for integrating the process of developing curriculum frameworks and selecting materials by alternating consecutive reviews of curriculum frameworks and materials between groups of subjects.

This development, discussed in relation to California, appears to have been relatively recent and to have been fully realised only in this state. The practice of linking the cycles for developing curriculum frameworks and adopting curriculum materials was first forged in California with the introduction of a six-year adoption cycle in 1975. An important means for strengthening this link was accomplished in 1980 by developing criteria for selecting materials from the curriculum frameworks. These criteria, which consist of several sets for judging such aspects as basic features, scope and sequence, teaching guides, assessment components, non-print and computer-based materials, are appended to each framework. The criteria, specified in a particular curriculum framework, are then used by Subject Matter Committees to develop instruments that Instructional Resources Evaluation Panels use to evaluate and select curriculum materials to be used in classrooms to support the curriculum framework.

The California State Department of Education (1984) reported that the results of these innovations were promising. For instance, greater emphasis was given to problem solving in criteria used to select mathematics textbooks adopted in 1981, as called for in the Mathematics Framework. More attention was given to the development of comprehension skills in reading materials adopted in 1982, as called for in the Reading Framework. Framework settings were also designed for publishers to use in developing history-social science textbooks for each grade for adoption in 1983. The report concluded that the selection and adoption procedure was being used to set criteria and standards for curriculum materials, which gave publishers direction on how to improve the quality of their textbooks.

The application of criteria, developed from the curriculum frameworks, for selecting appropriate materials has strengthened the link afforded by synchronising the cycles for developing curriculum frameworks and selecting materials. Together, these strategies have provided an orderly schedule and sound procedure for developing curriculum frameworks, and selecting appropriate materials to support a particular framework. Use of this initiative has reduced the prodigious time constraints imposed on selecting appropriate materials to support a particular curriculum framework in the largest state educational system in the United States, representing a system that is larger than the combined total of all Australia's educational systems.

9.1.2.2 Curriculum Design Analysis

During the late 1960s and early 1970s, several instruments were designed to evaluate curriculum materials, based on particular models of curriculum development (Eraut et al., 1975). By applying a particular model for curriculum development, these instruments provide scope to analyse the curriculum design of materials. Discussion below focuses on the development of the instruments used by EPIE Institute, which have been influential in the analysis of curriculum materials, and have also been applied in other educational settings.

Eash (1972a) reported that the Office of Evaluation Research at the University of Illinois at Chicago Circle, working with EPIE Institute, developed an instrument to evaluate curriculum materials during the late 1960s and early 1970s. This instrument consisted of five constructs: I Objectives; II Organisation of the Material (Scope and Sequence); III Methodology; IV Evaluation; and V Comment. Eash (1972b) also reported that this instrument was trialled during its development with a group of 25 graduate students to determine its inter-rater reliability. The subjects used the instrument to analyse two types of material under three conditions: first, each subject analysed a grade 6 reading material individually; second, the subjects, grouped into seven teams, rated the same material; and third, the seven teams rated a curriculum bulletin on grade 7 science. The results indicated that, whilst the inter-rater reliability of each construct in the instrument exceeded .9, the inter-item reliability within each construct averaged .55.

Later, Eash's instrument was adapted at a workshop held in Los Angeles, at which Maurice Eash assisted EPIE Institute train teachers to use his instrument to analyse reading materials. As a response to feedback from the participants, the first version of EPIE form A, a prototype from which EPIE Institute developed various versions, was developed. Whilst Eash's instrument was restricted to a single view about what constitutes good teaching, EPIE form A permitted alternative views about a material and stressed making a good match between user needs and preferences, and one or more of a number of different approaches inherent in a material. An important feature of EPIE Institute's application of EPIE form A has been a capacity to adapt it to fit different print, non print and computer based media, and new knowledge relating to curriculum materials. Its features for curriculum design analysis have also been supplemented with criteria to analyse sexist and racist bias, and match readability levels of curriculum materials to students' reading levels.

In collaboration with the Council on Interracial Books for Children, an association of writers, editors, illustrators, teachers and parents founded in New York City in 1966 to promote a better reflection of multicultural and multiracial values in children's literature, EPIE Institute conducted a research project in 1974 to determine the characteristics of racist biases in curriculum materials, and to develop criteria for analysing racist biases. At the same time, EPIE Institute contracted Women on Words and Images, founded during 1970 in Princeton, New Jersey, by a group of researchers and consultants on sexism in education, to conduct a research project to determine the characteristics of sexist biases in curriculum materials, and to develop criteria for analysing sexist biases. In January 1982, EPIE Institute employed the Degrees of Reading Power, a readability instrument published by the New York State Department of Education (1980), to provide diagnostic assessments of both students and curriculum materials in a group of elementary schools in New York City and on Long Island. Degrees of Reading Power assessments, incorporating measures of students' reading abilities derived from cloze passages, measures of the readability of materials, and computer-based matching of materials of appropriate difficulty to students' abilities, were first incorporated in EPIE Institute's evaluations of textbooks during 1984.

Extension of EPIE Institute's services to education agencies in the Canadian provinces of Alberta, Manitoba, and British Columbia led to the application in Canada of its methods, techniques and practices, initially as a result of membership with EPIE Institute, and then through a cooperative venture known as the Canadian Exchange for Instructional Materials Analysis (CEIMA). The need for a procedure to select curriculum materials to support curriculum development was recognised by these Canadian provincial education agencies during the late 1970s. This need led to contact with EPIE Institute, to which membership by subscription was then established, first by Alberta Education in 1978, followed by Manitoba Education in 1979, and the British Columbia Ministry of Education in 1980. As a result of this membership, EPIE Institute taught Canadian education personnel to train analysts, provided a certification procedure, and a bank of analyses based on the EPIE PRO/FILES.

Recognising their desire to exchange information about curriculum materials developed for use in Canada, the three Canadian education agencies subsequently withdrew from membership with EPIE Institute. Dissolution occurred when the British Columbia Ministry of Education withdrew from membership of EPIE Institute in 1980, followed by Alberta Education and Manitoba Education in 1983. The agencies then moved in 1983 to form a cooperative, the Canadian Exchange for Instructional Materials Analysis (CEIMA). CEIMA modified the instrument, and the procedure for exchanging information on curriculum materials. The adaptations to the instrument, originally derived from EPIE Institute's instrument used during the 1970s, were made to restrict curriculum design analysis to a descriptive function, and to include analyses of readability and social content. The instrument produced from this process by CEIMA in 1987 is used by each of the three provincial agencies, which allows them to share information on curriculum materials through a bank of analyses.

9.1.2.3 Curriculum Alignment

9.1.2.3.1 Principles

The concept of curriculum alignment originated at a meeting in November 1978 between administrators and school principals of the Los Angeles Unified School District and staff from the Southwest Regional Laboratory for Educational Research and Development (SWRL) held to design a strategy to help the district's racially isolated minority schools develop a more effective educational program. This meeting and subsequent discussions led to a pilot project during the 1979-1980 school year to align educational programs in two elementary schools in Los Angeles with the district's essential skills. In the 1980-1981 school year, the National Institute of Education sponsored these organisations to conduct a Curriculum Alignment Project in ten elementary schools in Los Angeles, involving more than 400 teachers and 50 resource personnel and administrators. In subsequent years, the project extended to more schools in Los Angeles, with 81 schools being involved in 1981-1982 school year and 238 schools in the 1982-1983 school year, before extending to other states (Scott, 1983).

As a consequence, SWRL designed a Curriculum Alignment Program featuring workshops, professional resources and technical assistance provided by a three-member team. Training was provided to principals, school coordinators and others through three types of workshop: a half-day workshop giving participants an understanding of curriculum alignment; a two-day workshop offering participants an understanding and application of curriculum alignment; and customised workshops giving participants the opportunity to analyse their own district's objectives, tests and materials. SWRL also developed a series of professional materials, including a coordinator's guide, administrator's overview, class profile sheets, class progress sheets, instructional planning sheets, and correlation charts, to support the training program and implementation of curriculum alignment in schools. Because these materials were tied closely to the particular curriculum guide and standardised test used by a particular district, SWRL worked with individual state departments and local school districts to develop materials for their own educational contexts. In addition, SWRL developed the Instructional Accomplishment Information System, a database designed to provide school districts with information generated from a random sample of student data for reviewing and planning educational programs.

Curriculum alignment is based on a principle that student achievement can be improved by aligning the objectives, teaching and learning through the use of materials and practices, and assessment (Niedermeyer and Yelon, 1981). A curriculum alignment project is conducted in a school through a series of staff development activities presented to teachers. These activities are conducted by a curriculum alignment school coordinator, chosen from the school's resource staff, and the principal, both of whom are trained through the Curriculum Alignment Program. Following an orientation session, the curriculum alignment process is initiated by gaining an understanding of the district's expectations for achievement in reading, mathematics and written language by examining student performance from the results of the district's mandated test. The strengths and needs of students are then determined by using class profile sheets to group them according to the test's results, followed by an analysis of strengths and needs of classes based on the previous year's program. The school staff, grade-level or subject area departments then discuss the strengths and weaknesses of the educational program for grades K to 6, and identify ways to improve the program in areas of particular concern. The staff then plans the use of school resources to improve student progress by analysing educational goals, identifying resources, determining ways to use school resources to meet priority remediation needs, and developing a one-year plan for meeting the goals. Curriculum materials are then matched to skills and goals by using instructional planning sheets and correlation charts, which provide a page-by-page description of skills covered in particular textbook series and lists the grade level of skill assessment. A plan for assessing mid-year progress, reviewing class progress sheets, and revising planning for the remaining part of the year is then designed. At the end of the year, the staff reviews student progress, use of curriculum materials, teaching strategies and areas targetted for improvement during the next school year (Los Angeles Unified School District, 1981).

9.1.2.3.2 Limitations

Several misapplications of the principles of curriculum alignment have been identified by experts in the selection and evaluation of curriculum materials. Komoski (1987) identified four typical approaches by which state education agencies and local school districts were applying curriculum alignment. Most commonly, curriculum alignment was being applied by school districts to align textbooks with a mandated test, especially in situations in which textbooks and tests have replaced the curriculum development process. Second, curriculum alignment was often used as a process to identify a single element in the curriculum, usually a test, to which other elements were expected to conform. A third approach being more frequently encountered involved the purchase of a computer-based learning system. A less common approach is the application of curriculum alignment in terms envisaged by its developers, in which school districts developed a curriculum statement of objectives for each subject area at each grade level before selecting curriculum materials that match this curriculum. Komoski criticised the first two approaches as elevating the means of fulfilling teaching and learning, and assessment to those of ends, whilst in the third approach the curriculum has been determined by a commercial vendor. He argued that these approaches truncate the process of curriculum development by providing a quick solution through delegating curriculum decisions to textbook and test publishers, rather than making certain that the curriculum's goals, learning experiences, content and assessment are all effectively aligned.

Similar misapplications of curriculum alignment have been attributed specifically to the selection processes used by many statewide adoption states and local school districts. Publishers are often required to produce documents that cross-reference curricular objectives or areas covered in tests with the content of textbooks. For instance, publishers are provided with specifications by the Florida Department of Education two years in advance to prepare written correlations that submitted materials are aligned to the objectives presented in the state's curriculum frameworks for grades 6 to 12. In some statewide adoption states, contractors have been used to correlate the content of textbooks with curricular and test objectives, by using computer-based programs for detecting word frequencies and passage lengths in the materials. Tyson-Bernstein (1988) drew attention to potentially harmful effects of reliance on such crude techniques for producing alignment between the curriculum and particular materials. She argued that publishers are apt to choose captions to show curriculum congruence, whilst mechanical computer-based techniques are likely to encourage the practice of 'mentioning', the superficial coverage of numerous topics in a material.

9.1.2.3.3 Relationship to Outcome-based Education

Outcome-based education was first developed in 1972 in the Johnson City School District, New York, as the Outcomes Driven Developmental Model formulated by Albert Mamary and John Champlin. The success of outcome-based education in the Johnson City School District led Mamary and Champlin to form the Network for Outcome-based Schools at a meeting of proponents of outcome-based education in 1979, at which William Spady coined this term. Mamary continued the Network for Outcome-based Schools, which later merged with two other outcome-based education networks to form Partners for Quality Learning, based in Binghamton, New York. Spady developed another form of outcome-based education, the High Success Network Strategic Design through the High Success Network, based in Eagle, Colorado.

In recent years, outcome-based education has become one of the most controversial issues in the United States dividing liberal educators and conservative Christian groups. This has generated a public debate between advocates of outcome-based education and representatives of conservative Christian groups, such as Citizens for Excellence in Education, Eagle Forum, and Concerned Women of America (Spady, 1994; Schlafly, 1994; LaHaye, 1994). The basis of conservative Christian attacks on outcome-based education lies with their concerns about its emphasis on the teaching of values, presentation of radical social, political and economic values, promotion of a whole language approach in reading, multicultural education, and the approach adopted by educators in implementing outcome-based education (Burron, 1994). The attack by conservative Christian groups on outcome-based education has been influential in stifling statewide outcome-based education reforms in Pennsylvania and Connecticut (Pliska and McQuaide, 1993-1994; Pliska and McQuaide, 1994; Frahm, 1994).

Spady and Marshall (1991) indicated that the principles of curriculum alignment have been incorporated as important elements in recognised outcome-based education approaches. In traditional outcome-based education, which characterises almost all current approaches in North America, schools determine what is important for students to learn in terms of existing curriculum content, and set curriculum-based objectives, which are then aligned to teaching and learning, and assessment procedures. As the term implies, approaches using transitional outcome-based education form the means for changing from traditional to transformational outcome-based education.

Transitional outcome-based education approaches proceed through three stages of maturity: incorporation, when the school staff recognises that curriculum materials and subject matter content do not form the primary focus for teaching and learning; integration, when content is used to support transitional exit outcomes; and redefinition, in which subject matter content is further subordinated to emerging concepts, issues, problems, and processes. Transformational approaches, which represent the highest evolution of outcome-based education, are characterised by four principles: schools align their curricula, teaching and learning, assessment and certification with the substance and processes of the intended outcomes; curriculum design proceeds backwards from culminating outcomes; outcomes show a high level of challenge to students; and time is used as a flexible resource to show students a variety of learning experiences.

9.1.3 Prospective Improvements

National curriculum collaboration in Australia was undertaken by a national policy organisation through a consensus building process, which successfully established a balance between demands for centralising curriculum provision whilst meeting constitutional requirements to retain state autonomy in educational matters. The success of this enterprise was attributable largely to the adoption of an authority innovation decision-making process to accomplish collaborative work through a central curriculum agency. Many commentators have stated that the decision-making process and schedule used to complete this work were inadequate, because insufficient time and effort was given to conducting extensive consultation in the wider educational community. Furthermore, adaptation and implementation of the national statements and profiles by the states and territories was not accompanied by guidelines specifying relevant objectives, an appropriate procedural design, suitable methodologies, or an adequate schedule. Monitoring of the implementation process was limited to gathering information from state and territory education agencies engaged in this work. Moreover, the inevitability that the national statements and profiles will need to be revised at a future time to reflect educational, and broader social, changes has not been addressed.

It has been shown by reference to the procedural design used for curriculum planning in California that the constraint imposed by inadequate time could be overcome by employing an adoption cycle for revising the national statements and profiles. The incorporation of an eight-year cycle, whereby revision is rotated between each of the eight national statements and profile at consecutive intervals, would be an important feature of this schedule. The case study on California, reported in Chapter 7, indicated that the use of an eight-year cycle provided adequate time over an eighteen-month period for developing a curriculum framework, conducting statewide consultation, holding public hearings, revising the framework, approving the framework, and editing, printing and distributing copies of the framework.

The lesson offered by adopting this practice from California, however, cannot be so easily extended to the selection of curriculum materials to support the national statements and profiles in Australian schools. The evidence, presented in earlier chapters, shows that the selection of curriculum materials in Australia is probably handled more effectively and efficiently at the local level. The practice of linking the cycles for developing national curriculum statements and profiles, and selecting curriculum materials at the local level, could probably only be managed by mandating an adoption cycle, whereby local selection committees rotate the selection of materials between particular learning areas according to specified dates. On the other hand, the development of criteria for selecting curriculum materials from the national statements would probably form a more useful means to guide the initial work of local selection committees.

It is apparent from research and development activities reported in this project that a close relationship exists between the processes of curriculum development and the development, selection and use of curriculum materials, although the variables involved in this relationship do not seem to be well understood. This conclusion is supported by evidence that few methods, techniques and practices have been developed to form a clearer relationship between the curriculum and materials intended to support it in classrooms. Each of the main developments in this area have occurred in the United States, and there is no evidence to substantiate a contention that these methods, techniques and practices are widely known or understood in the Australian educational community.

Recommendations for Improving the Relationship between the Curriculum and the Selection of Materials

1. State and federal educational authorities should consider the soundness of employing an eight-year cycle for revising the national statements and profiles by rotating this process between the eight learning areas on a regular and continuous basis.

2. State and federal educational authorities should examine the appropriateness of appending criteria for selecting curriculum materials to the revised national statements as a means for guiding groups and individuals involved in the selection of curriculum materials at the local level.

3. State and federal educational authorities should consider the feasibility of mandating an adoption cycle for local school systems to select curriculum materials. Such consideration should focus on assessing the value to be derived from linking the processes of curriculum development and selection of materials by synchronising a cycle for revising the national statements and profiles with a cycle for selecting and adopting curriculum materials.

4. State and federal educational authorities should examine the value of adopting the principles of curriculum design analysis for conducting evaluations of curriculum materials reported on Curriculum Corporation's electronic information service.

5. State and federal educational authorities should investigate the potential of curriculum alignment as a process for improving the match between the elements of the curriculum, materials and tests. Curriculum Corporation should consult outcome-based education networks, and research and development organisations on work they have undertaken to apply the concepts of curriculum alignment. Curriculum Corporation should collaborate with ACER on this venture, so as to evaluate the implications for student assessment.

Among the earliest developments reported in this section were efforts to design instruments to analyse curriculum materials based on particular curriculum models. The application of these instruments for the purpose of curriculum design analysis has been confined mainly to the production of written evaluations suitable for dissemination in printed form or by an electronic database. The adaptation of curriculum design analysis to other geographical settings has been verified by the example referring to Canada. Evaluations of curriculum materials, applying curriculum design analysis, would provide teachers and resource specialists with more relevant information about their potential match to the curriculum than is presently provided by methods, techniques and practices employed for this purpose in Australia.

Curriculum alignment represents a powerful tool for matching the elements of the curriculum. The potential strength of curriculum alignment lies in a capacity to integrate outcome-based content objectives, teaching and learning practices, curriculum materials, and tests used in a particular educational program. The task of curriculum alignment is based on particular requirements relating to identifying objectives, making decisions about time, curriculum materials and teaching methods, monitoring student progress, evaluating outcomes, and planning. The incorporation of the principles of curriculum alignment in traditional, transitional and transformational outcome-based education suggests that its prospective application in Australia is consistent with the rationale and intent of the national statements and profiles. Therefore, the attention of policy-makers and curriculum developers in Australia should be directed to specific programs designed by outcome-based education networks, such as Partners for Quality Learning and the High Success Network, and research and development organisations, such as SWRL's Curriculum Alignment Program and EPIE Institute's Integrated Instructional Information Resource.

9.2 Selection Process

9.2.1 Overview of the Current Situation in Australia

The findings of the study, reported in Chapter 5, suggest that Australian teachers rely on a wide range of materials, particularly textbooks and supplemental reading materials, for delivering the curriculum in classrooms. This dependence indicates that various curriculum materials form a de facto curriculum in Australian schools. The recent introduction of a nationally agreed curriculum in Australia provides the first opportunity to develop a national perspective towards improving the quality of curriculum materials used in schools by direct intervention. Such intervention would not have been possible in the past. It should be used to apply procedures for trialling and revising materials when materials are being developed, and for selecting appropriate materials before their purchase in schools. Since control of the selection process is retained within state and territory educational systems, an imperative for educational authorities lies with implementing selection procedures, which are conducive to improving selectors' understanding of high quality in curriculum materials.

Evidence presented in the earlier chapters indicates that a wide range of authorities influences the selection of curriculum materials used in Australian schools. At the national level, CDC and ASCIS were influential in the selection process by virtue of providing evaluative information on curriculum resources by means of an electronic database. This activity has been continued by Curriculum Corporation, but on a reduced scale. State and territory education agencies have probably been more influential than national bodies, but this influence has varied depending on whether they have employed centralised or decentralised selection procedures. It has been reported in Chapter 4 that centralised procedures for selecting curriculum resources are used in Queensland and Western Australia, whilst New South Wales, Victoria and Tasmania have moved from using centralised to more decentralised procedures, whilst the evidence suggests that decentralised procedures for selecting curriculum resources have always been used in South Australia, the Australian Capital Territory and the Northern Territory. State and territory accreditation agencies also influence the selection of curriculum materials, particularly those used in senior secondary grades. It has been reported in Chapter 4 that syllabus committees select materials for some subject areas in New South Wales, Victoria, South Australia, Tasmania and the Northern Territory. In the Australian Capital Territory, accreditation panels screen recommended materials for programs developed at the school level. On the other hand, the influence of the Board of Senior Secondary School studies in Queensland on the selection of materials is minimal. The main influence on the selection of curriculum materials, however, lies with decision-making processes used in individual schools. It was reported in Chapter 5 that the predominant type of unit used to select materials in many schools involved group choice by teachers and the curriculum coordinator, although a variety of other types were employed.

The evidence reported in Chapter 5 suggests that special interest groups may not influence decision-making in the selection process greatly. On the other hand, there is evidence from another source indicating that challenges to supplemental reading materials held in school library collections of Australian schools are common. Evidence from the same source suggests that only a minority of schools have developed and abide by written policies for handling challenges. Evidence reported in Chapter 4 indicates that several state and territory education agencies have developed guidelines for schools to follow in dealing with challenges.

9.2.2 Factors Determining the Selection Process

In a discussion of factors determining the selection process, Keith (1991) identified four important influences: the degree of centralisation or decentralisation of the actual selection process; the composition of groups involved in selecting materials; the specification of criteria for selecting materials; and the external interests and pressures that affect the selection process. These factors, together with other issues identified during the course of the project or from relevant fields, are examined with reference to both foreign and Australian contexts.

9.2.2.1 Centralisation or Decentralisation

A key issue identified from the review of research literature on the selection of curriculum materials in the United States, reported in Chapter 6, was the influence that centralised selection at the state level wields over the content and marketing of curriculum materials, whereas local-level selection has little control over these factors. This situation has been recognised in the United States for many years. It can be postulated from the basis of empirical research conducted for this project that a relationship exists between the centralised provision of the curriculum and centralised selection of curriculum resources on the one hand, and the decentralised control of the curriculum and the use of procedures for selecting curriculum resources at the local level. The provision of the curriculum and its implications for the selection of curriculum resources is now discussed with regard to the situation in the Australian states and territories.

The historical development of centralised administrative systems, which evolved in each state education agency in Australia, has been described in Chapter 2. The pattern of centralisation, which contrasted with patterns of local-level decision-making arising in North America, was conveyed in an influential critique of Australian educational systems by R. Freeman Butts, professor of education at the Teachers College, Columbia University, following a study tour undertaken in Australia during 1954. Highly critical of the centralised administration of state educational systems in Australia of the time, Butts (1955) also raised concerns about the uniformity of policies, reliance on inspectorates and external examinations, and the lack of public involvement in decision-making. Since the late 1960s, a notable feature of administrative organisation in state educational systems has been a gradual decentralisation of decision-making to a wider range of participatory groups. Since that time, a number of studies have analysed the main characteristics of decision-making involved in the provision of the curriculum in primary and secondary education.

Deschamp and McGaw (1979) found that decision-making in curriculum matters was decentralised to schools during the 1970s through provisions for school-based curriculum development. However, they identified that this trend was not uniform. State education agencies in New South Wales and Queensland formulated central aims supported by curriculum guides. State education agencies in Victoria, South Australia, Western Australia and Tasmania provided general statements of curriculum aims supported by school-based curriculum development. In the Australian Capital Territory and the Northern Territory, schools were permitted to adapt central aims to provide school aims supported by school-based curriculum development. Applying the same typology, McKenzie and Keeves (1982) found a slightly different situation among state and territory education agencies: New South Wales, Queensland and Western Australia formulated central aims supported by curriculum guides; South Australia and Tasmania provided general statements of curriculum aims supported by school-based curriculum development; and in Victoria, the Australian Capital Territory and the Northern Territory, central aims were adapted by schools and supported by school-based curriculum development.

In a study of the allocation of resources in a sample of 600 schools in Australia and New Zealand, Ainley (1982) found that there were few variations between the states at the primary level, but that differences occurred for the allocation of teachers and teacher aides, as well as assessment policies at the secondary level. Cohen and Harrison (1982) reported from a survey of a nationwide sample of 100 schools that respondents in Queensland, New South Wales and Western Australia perceived centralised control to be substantial, whilst those in South Australia, Tasmania and the Northern Territory perceived centralised control to be minimal, and those in Victoria and the Australian Capital Territory perceived centralised control to be moderate. Using previous research as a basis, Sturman (1989) classified state educational systems in Australia according to a typology consisting of three models: New South Wales, Queensland and Western Australia, in which governance is primarily a responsibility of central offices, resembled an administrative model; South Australia, Tasmania and the Northern Territory resembled the professional model in which school professionals established structures to satisfy needs; and Victoria and the Australian Capital Territory resembled the participatory model in which decision-making is vested in school councils broadly representing community interest groups.

Although the pace of decentralisation appears to have increased during the 1990s, it is difficult to assess its progress in the states and territories because of the lack of comparative studies. It is apparent, however, that differences still persist in the extent of decentralisation between systems which have historically centralised decision-making and more decentralised systems. The current situation is represented in tabular form, followed by a discussion about each of the states and territories. A total of 109 local education agencies, provided by district offices in New South Wales, Western Australia and Tasmania, and by regional offices in Victoria, Queensland, South Australia, Northern Territory and Australian Capital Territory, are listed in Table 25.

TABLE 25

LOCAL EDUCATION AGENCIES IN THE STATES AND TERRITORIES

1. NEW SOUTH WALES

The New South Wales Department of School Education operates 40 district offices located in the following population centres: Albury; Armidale; Bankstown; Batemans Bay; Bathurst; Blacktown; Bondi; Broken Hill; Campbelltown; Coffs Harbour; Coonabarabran; Deniliquin; Dubbo; Fairfield; Gosford; Grafton; Griffith; Hornsby; Lismore; Liverpool; Maitland; Moree; Mt Druitt; Newcastle North; Newcastle South; Northern Beaches; Orange; Parramatta; Penrith; Port Macquarie; Queanbeyan; Ryde; St George; Shellharbour; Strathfield; Sutherland; Tamworth; Taree; Wagga Wagga; Wollongong.

2. VICTORIA

The Victoria Directorate of School Education operates 7 regional offices located in the following population centres: Ballarat East (Central Highlands Wimmera Region); Benalla (Goulburn North-Eastern Region); Bendigo (Loddon Campaspe Mallee Region); Dandenong (South East Metropolitan Region); Footscray (North West Metropolitan Region); Moe (Gippsland Region); North Geelong (Barwon South Western Region)

3. QUEENSLAND

The Queensland Department of Education operates 11 regional education offices located in the following population centres: Cairns (Peninsula Region); Ipswich (Metropolitan West Region); Maryborough (Wide Bay Region); Mt Gravatt (Metropolitan East Region); Mt Isa (North Western Region); Nambour (Sunshine Coast Region); Rockhampton (Capricornia Region); Roma (South Western Region); Southport (South Coast Region); Toowoomba (Darling Downs Region: Townsville (Northern Region)

4. SOUTH AUSTRALIA

The South Australia Department of Education and Children's Services operates 5 regional offices located in the following population centres: Morphett Vale (Southern Metropolitan Region); Murray Bridge (Southern Country Region); North Adelaide (Western Metropolitan Region); Port Augusta (Northern Country Region); Tranmere (Eastern Metropolitan Region)

5. WESTERN AUSTRALIA

The Western Australia Department of Education operates 29 district offices located in the following population centres: Albany (Albany District); Armadale (Armadale District); Balga (Balga District); Beaconsfield (Cockburn District); Beaconsfield (Melville District); Bunbury (Bunbury North District); Bunbury (Bunbury South District); Cannington (Perth South District); Cannington (Thornlie District); Dianella (Bayswater District); Dianella (Dianella District); Esperance (Esperance District); Geraldton (Geraldton North District); Geraldton (Geraldton South District); Joondalup (Joondalup District); Kalgoorlie (Kalgoorlie District); Karratha (Karratha District); Karrinyup (Scarborough District); Kununurra (Kununurra District); Mandurah (Peel District); Manjimup (Manjimup District); Merredin (Merredin District); Midland (Darling Range District); Moora (Moora District); Narrogin (Narrogin District); Northam (Northam District); South Fremantle (Willeton District); South Hedland (Hedland District); Subiaco (Swanbourne District)

TABLE 25
(continued)

6. TASMANIA
    The Tasmania Department of Education and the Arts operates 7 district offices located in the following population centres: Bellerive (Bowen District); Claremont (Derwent District); Devonport (Barrington District); Kingston (Hartz District); Launceston (Forester District); Launceston (Macquarie District)

7. NORTHERN TERRITORY
    The Northern Territory Department of Education operates 6 regional offices located in the following population centres: Alice Springs (Alice Springs Region); Darwin (Darwin Region); Katherine (Katherine Region); Nhulunbuy (East Arnhem Region); Palmerston (Palmerston and Rural Region); Tennant Creek (Barkly Region)

8. AUSTRALIAN CAPITAL TERRITORY
    The Australian Capital Territory Department of Education and Training operates 4 regional offices located in Canberra: Belconnen; Central; Tuggeranong; Woden-Weston

In New South Wales, the New South Wales Education Portfolio recommended implementing a two-tiered structure to decentralise decision-making authority by strengthening the existing division of 10 regions, and replacing districts by 150 clusters, each consisting of 14 to 16 schools, comprising of two high schools and feeder primary schools. Subsequently, this structure was replaced in 1995 by reorganising the regions and clusters into 40 districts in order to improve the delivery of services to schools. In addition, school councils were established on a gradual basis, but opposition on the grounds of representation from the Federation of Parents and Citizens Associations, New South Wales Teachers Federation and the Primary and Secondary Principals Association led to broader membership on school councils being included. Gamage (1993) identified that the slow progress in forming school councils in New South Wales was attributable to their limited advisory role, and the legal requirement that responsibility and accountability for management of a school is vested in the principal. In Queensland, decentralisation did not become an important issue until the Labor state government, elected in 1989, promoted community-wide consultation culminating in publication of a blueprint for educational reform (Queensland Department of Education, 1990). In the wake of this report, a number of responsibilities, previously carried out by the central office, were devolved to regions and schools, equity measures were introduced, and a number of consultative forums were established. The Labor government also fostered parental and community participation in schools by initiating a trial of school advisory councils, appointing parent development officers, and establishing a state parent forum. In Western Australia, decentralisation was initiated by the report of the Western Australia Ministry of Education (1987), which proposed devolving decision-making to districts and schools over a five-year period. Increasing industrial action by teachers was resolved by two memoranda of agreement in 1990 and 1991 between the Ministry and the State School Teachers Union, which offered increased salaries in exchange for supporting decentralisation. In May 1993, the Western Australia Ministry of Education (1993) circulated a discussion paper to school communities proposing further devolution of responsibilities to schools, which drew widespread opposition from various interest groups because the proposals were perceived to be linked to financial savings. This led the union to survey its school representatives, finding that the overwhelming number of schools had adopted school development plans, formed broadly representative school decision-making groups, and established a consultative process for school budget allocations.

In South Australia, decentralisation began in the 1970s when 5 central and 10 regional directorates were formed. In 1983, this structure was reorganised into 5 area directorates, 2 based in rural centres and 3 based in metropolitan centres in Adelaide. Subsequently, the South Australia Department of Education (1992) released a discussion paper proposing a model for decentralising management to schools. Soon after becoming South Australian Minister for Education, Susan Lenehan announced that this model would not be implemented, but replaced by a policy of shared responsibility intended to identify strategies to decentralise decision-making authority. In Tasmania, decentralisation began in 1969 with the formation of three regions to facilitate implementation of educational services. Although the Tasmania Department of Education (1981) recommended the establishment of school councils, few school communities implemented school-based decision-making. Following its election in April 1989, the Labor government was faced by the need to instigate financial stringencies. In June 1990, the government contracted a Melbourne based consultancy firm, Cresap, to conduct a review of the Tasmania Department of Education and the Arts, which recommended forming school councils and eight districts, later to be reduced to seven districts. Until the 1970s, education services in the Northern Territory were provided by several agencies, particularly the Commonwealth Department of the Interior and the South Australia Department of Education. The 1979 Education Act established an administrative framework for the Northern Territory Department of Education based on corporate management. Decentralisation of decision-making functions to schools was followed by the formation of the first school councils in 1983, which have since gained more responsibilities in school management.

In Victoria, decentralisation began with the formation of 11 regions in 1971 and the establishment of school councils in 1975. In March 1983, Robert Fordham, the Minister for Education issued a statement of philosophy, based on fostering a process of participative, collaborative decision-making involving school communities and redressing disadvantage, which was enunciated in a series of six papers (Victoria, Minister of Education 1985). This review led to the formation of a state board of education, creation of regional boards, and the reformation of school councils by providing them with a major responsibility for deciding educational policies within their schools. Following its election in October 1992, the Liberal National coalition government released a plan, known as Schools of the Future, intended to introduce self-managing schools in which three-year school charters provide the framework for budgetting and accountability. From its formation in 1974, the Australian Capital Territory Schools Authority was constituted on the basis of schools exercising a large degree of control over decision-making through broadly representative school boards. This organisation has persisted with minor adjustments.

In conclusion, decision-making authority in Australia during the 1990s is being decentralised to schools by widespread adoption of the school council model. Using Butts' critique to provide a basis for historical comparison, Thody (1994) concluded after a six-week study tour in 1992 that school councils, resting on a model of democracy pertaining to Eurocentric, middle class attitudes to public participation valuing formalised, committee-style governance, may not be an appropriate solution. There are indications that decision-making responsibilities are being centred in local education agencies. The evidence of a predominant trend towards decentralising decision-making functions to local education agencies in many regions of Australia is of paramount significance to any consideration of the nature of groups who should be involved in selecting curriculum materials. This evidence suggests that it would be appropriate for selection committees to be placed under the control of local education agencies in the Australian states and territories.

9.2.2.2 Composition of Selection Committees

The findings of research studies, reported in Chapter 6, have identified that considerable weight was given by educational authorities in statewide adoption states in the United States to appointing representative committees to select curriculum materials. The Institute for Educational Development (1969) found that publishers' representatives believed the involvement of a wide range of professional educators at many points in the selection process was its greatest strength. The data reported from the survey of education agencies in statewide adoption states indicated that specific legislative provisions required the membership of state-level committees to represent a cross-section of both educational and lay communities. It was found that most states required representation from professional educators, and slightly more than half of these states required lay representation.

The representation of membership on selection committees in statewide adoption states takes into account as many as five factors: role; expertise; geographic area; ethnicity; and gender. The application of these factors for selecting committee members can be best understood by reference to one of the more complex procedures identified from the survey. Following increase in the membership of the State Textbook Committee from 16 to 23 members in 1982, Alabama Education

Laws specifying the composition of the State Textbook Committee were amended, as follows.

> The state textbook committee shall be composed of 23 members. Four of such members shall be secondary school classroom teachers and four elementary school classroom teachers. One of these eight members shall be appointed from each of the seven congressional districts, as such districts are now constituted, and one shall be appointed statewide. There shall also be four members appointed from the state at large, and these four members may be either classroom teachers or persons actively engaged in the supervisory or administrative capacity in the field of education. There shall be two members of the committee who are employees of state institutions of higher learning. These 14 members of the state textbook committee shall each be appointed by the state board of education upon nominations made by the state superintendent of education. Nine members shall be appointed by the Governor, subject to the confirmation of the Senate, one from each of the seven congressional districts, as such districts are now constituted and two appointed statewide and, these two shall be members of local city or county boards of education at the time of their appointment. All members of the textbook committee shall be appointed for terms of one year, beginning on the first day of May. Two of the members appointed from the congressional districts shall be recommended by the state superintendent of education. These 9 additional members shall have general knowledge of the subject area to be considered for textbook adoption and shall be supportive of public education and shall have a demonstrated ability to read and write at a post high school level and shall not be employed in education.

There appears to be some evidence, however, that the actual practice of selecting committee members varies from legislative requirements. In one of the few case studies of a statewide adoption system, Marshall (1986) reported from interviewing participants in Texas that selection of the State Textbook Committee involved balancing three main factors: soliciting teachers with recognised ability and expertise in the particular subject area, who were then required to gain endorsement from their school district's superintendent; appointing persons from different congressional districts, which later evolved into the practice of rotation, because there were more congressional districts than State Textbook Committee members; and representing the ethnic and gender composition of the committee equitably. Typically, teachers and supervisors were recommended by staff of the Texas Education Agency, whilst administrators were recommended by administrators of the Texas Education Agency or the commissioner. Frequently, the commissioner received both solicited and unsolicited nominations from others, including curriculum supervisors, college and university faculty members, and superintendents. The commissioner constructed the fifteen-member State Textbook Committee from a collection of many names submitted. When the final membership had been allocated, the commissioner provided each member of the state board of education with the name of the prospective State Textbook Committee member selected from his or her congressional district. State board members could investigate their candidate, and veto the nomination if they wished.

The composition of local selection committees in both statewide and local-level adoption states is generally left to the discretion of local school boards and superintendents. However, the composition of local selection committees is regulated in several statewide adoption states. Arkansas and Florida require local selection committees to consist of 3 or more members, whilst West Virginia requires local selection committees to consist of 15 or fewer members. Kentucky and Virginia require membership of local selection committees to be representative of supervisory staff, school administrators and teachers, but also to be nondiscriminatory with respect to race and gender.

Representative composition of selection committees is generally supported by the conclusions of experts. Educational Products Information Exchange Institute (1975a) stated that selection committees should not only consist of teachers and administrators, but also parents, students and members of the community. The team work of selection committees would also benefit from consultation with specialists of various types, such as evaluators. Tyson-Bernstein (1988) believed members of selection committees should be chosen primarily on the basis of their knowledge and secondly on the basis of representation. She stated that selection committees should consist of a mixture of seasoned and new teachers, as well as administrators, principals, parents, and community members.

9.2.2.3 Training

Several commentators have drawn attention to the lack of training offered to members of selection committees (Duke, 1985; Farr et al., 1987a). This lack of systematic training not only casts doubt on the reliability and validity of selection procedures used by reviewers, but also limits the extent to which they are able to participate effectively in the decision-making process. Systematic training is likely to promote scepticism about the claims that publishers make when promoting their materials, a concern for impartiality, a sense for obtaining objective information to mitigate subjective opinions about materials, insight into different information sources, and a realisation that both explicit and implicit goals need to be considered.

Limited evidence is available supporting the value of training reviewers of curriculum materials. Dole et al. (1987) reported that the Center for the Study of Reading at the University of Illinois developed a series of seven booklets and a leader's manual to assist local selection committees in the task of selecting basal reading materials. Pilot-testing of the training materials was conducted in four local school districts, all in local-level adoption states. Subsequently, Dole et al. (1989) reported from the administration of a questionnaire and interviews that 80 percent of the participants in the pilot tests perceived the training materials assisted them to select appropriate reading materials. Participants reported that the use of the training materials contributed to a more informed selection process on substantive issues of curriculum design and content coverage, and less on superficial aspects and political considerations. The researchers concluded that the successful use of these training materials, however, depended on committee leadership, enthusiasm of committee members, adequate time to use the materials, and support for inservice training from a knowledgeable source.

The provision of inservice training for members of selection committees appears to be a recent phenomenon in the United States, where only a few examples of training programs have been reported. Educational Products Information Exchange Institute (1975a) reported developing a training program, which was introduced in Pennsylvania and California in 1973 and 1974, before being extended to other states and Canada. Komoski (1980) reported that the National Institute of Education funded EPIE Institute to develop the first comprehensive training program in the United States, undertaken by a national task force of curriculum and media specialists. This activity involved designing the Packaged Training Workshop in Instructional Materials Selection, consisting of thirty modules comprising three types: sixteen modules, the basic components of the set, developed, field-tested and revised during 1978 and 1979; four modules adapted from the first group for use by special educators, developed and field-tested by Wayne County Public Schools, Michigan, in 1979; and ten modules developed in 1979 following empirical research conducted by EPIE Institute to gather and analyse data that indicated widespread and gross misfitting of curriculum materials to the capabilities of students. A project to disseminate the modules and train teachers was first conducted in Illinois in 1979, and extended to other states in 1980.

The situation prevailing in the 1970s does not appear to have improved substantially. Florida is the only state to require reviewers to receive inservice training in a specially designed program before serving on state instructional materials committees. Connie Muther & Associates has designed a training program, which is widely used by local school districts across the United States. Both of these training programs have been described extensively in Chapter 7.

Despite the lack of a wide range of available training programs, educational authorities need to provide inservice training in order to improve the skills of reviewers involved in selecting curriculum materials. The content of training that committee members should receive before reviewing materials needs to be determined. Following interviews with a panel of experts on the selection of curriculum materials, Muther (1986a) identified four core areas, which should be covered in a training program. First, committee members should be presented with a plan for the selection process. Second, committee members should be presented with a review of the latest research and thinking about the particular subject area under consideration. Third, committee members should be trained to assess, rank, and define local needs. Fourth, committee members should be trained how to evaluate materials.

9.2.2.4 Preliminary Decisions

Experts believe that the selection process should be organised from its commencement by making decisions about factors affecting the selection process, and assigning the work of selection committee members. Muther (1983) stated that the committee should estimate a budget to purchase and implement adopted materials and pay reviewers, set time limits for ordering materials from publishers and completing the selection process, determine representation of membership on the committee, identify controls over external factors affecting the selection process, and determine the structure of the committee. Muther recommended that the committee should elect a director at its first meeting, who should impose a division of labour by forming the committee into seven subcommittees: Communications; Pitfalls; Research; Needs Assessment; Materials; Implementation/Training/Modifying; and Monitoring. Tyson-Bernstein (1988) stated that the selection committee should decide on a realistic amount of time to complete the selection process and provide the means to remunerate reviewers. The committee chairperson should be responsible for developing a schedule.

9.2.2.5 Review of the Educational Setting

Experts believe that the selection process should be initiated by an analysis of antecedent conditions. Educational Products Information Exchange Institute (1975a) stated that selection of materials should be informed by an analysis of the characteristics of the community, the school, teachers and students, but emphasised that educational research has not been able to produce a profound understanding of interactions between these variables. Muther (1983) stated that planning and analysing what is wanted in a new material should be accomplished by reviewing the last five years of research in the subject area under consideration, identifying and reducing curriculum objectives, and assessing needs for new materials. The outcomes of these activities should be reduced by ranking research trends, needs and criteria, followed by definition of the three most highly ranked goals. Talmage (1985) identified that the analysis should focus on five factors: the educational policy of the local school community; a description of the curriculum; characteristics of the students; teacher's subject area knowledge and teaching style; and an awareness of community sensitivities. Tyson-Bernstein (1988) stated that the selection process should begin with a review of the curriculum in the subject area under consideration, stressing that the use of materials should be placed in perspective by confirming that the curriculum and not the materials drives teaching and learning. The review should take the form of a one-day seminar at which state and local leaders should disseminate information about research findings on the subject area. Soon after the seminar, a skilled facilitator should lead the committee in a discussion on the subject area under consideration. Discussion should focus on the overall theme of a course of study, principles that subsume details of content, or the basic tenets of a discipline.

9.2.2.6 Selection Criteria

Selection criteria form the common points of judgment to weigh and determine quality in curriculum materials. When specified precisely, a selection criterion provides a degree of objectivity into the process of evaluating materials by standardising reviewers' judgments. To introduce a measure of objectivity, a selection criterion should consist of three constituent parts: a criterion statement, specifying the object to be valued and the judgment to be made; indicators specifying the relevant aspects to be judged; and a rating scale to judge the degree to which the criterion is met.

The evidence reported by commentators suggests that the criteria listed on many instruments used by selection committees do not meet these standards. For instance, Farr and Tulley (1985) found from an examination of 70 instruments that the only common criterion referred to the copyright date, most instruments emphasised the existence of a particular factor rather than its quality, the instruments often gave equal weight to all criteria, and the number of criteria was overwhelming, averaging 73. Courtland et al. (1983) reported from a study of reviewers involved in the statewide selection procedure in Indiana that four patterns were used in reviewing textbooks, once one-third of the reviewers were excluded because they failed to adhere to any discernible pattern. Fifty percent of the reviewers began by examining teacher's guides before moving onto the student's materials followed by any supplemental materials, whilst 13 percent began by examining the student's materials before moving onto the teacher's guides followed by any supplemental materials. Only 2 percent applied each criterion by examining the teacher's guide, student's material and the supplemental materials in each program before proceeding to the next criterion, and only 1 percent applied each criterion to all programs before proceeding to the next criterion. On the basis of this evidence, Tulley and Farr (1990) argued that the development of criteria should form the selection committee's first important task to be initiated during the curriculum review by discussion about factors that constitute high quality in curriculum materials. The committee should restrict the number of factors for consideration to no more than twenty. Once the criteria have been identified, the committee members need to agree on the meaning of each factor. Committee members should then trial their list of criteria on a small sample of materials. This should be done for each criterion rather than for the overall quality. A rating scale can be devised from this procedure. The evaluation instrument should be revised on the basis of results from the trial.

Several experts hold that selection committees should develop two separate sets of criteria, one for screening available materials initially, and the other for matching screened materials to a range of characteristics found in curriculum materials. Screening criteria should be concerned with identifying those materials that best match the educational goals of a local school community. Educational Products Information Exchange Institute (1975a) recommended that selection committees should devise either checklists, ordered according to agreed priorities, or weighted rating scales, if professional evaluators are available. Materials, which survive the initial screening, may be checked against another checklist based on criteria concerned with the educational setting. Muther (1983) recommended that initial screening should involve grouping all materials according to physical attributes, and then analysing the contents by using three evaluative techniques: topic comparison, or story-sort comparison in the case of reading materials; vertical trace; and horizontal trace. Talmage (1985) believed that initial screening could be undertaken by considering copyright dates, costs, and durability through an examination of publishers' promotional literature. Further screening should entail establishing congruence between the material and the elements of the curriculum, identifying community concerns, assessing readability levels, and identifying bias.

The second step involves subjecting screened materials to more detailed scrutiny than was applied during initial screening. Educational Products Information Exchange Institute (1975a) indicated that selection committees should develop more probing forms, which allow for qualified answers and permit recording of observations made from detailed study of the curriculum design of the screened materials. On the basis of this match, final selection may be made in a 'decision arena' of five alternative courses: continued use of existing materials within existing programs; selection of materials on the basis of student and teacher characteristics and approach to teaching and learning; development of materials locally, regionally, or at state level; initiation of inservice training of personnel in the use of materials and implementation of programs; and initiation of broader curriculum development for the appropriate programs. Muther (1983) recommended that screened materials should be piloted by conducting 'kid ratings', a field trial in which students verify the three textbooks screened by the committee by rating which material teaches best the subject matter in a common topic, or by using other alternatives, such as surveying publishers' representatives, teachers, or by examining field test results. On the other hand, Talmage (1985) recommended that curriculum design analysis should be applied to match screened materials to a local school community's educational needs. Selection committees should devise a three-point rating scale to assess the match between the curriculum and each material. Final decision-making, however, should not be made on the basis of simply counting ratings, but instead involve considering the overall strength of each material, including the extent to which it may be supported by supplementary materials. The final step in decision-making should involve recommending, recommending with revision, or rejecting each material.

Young and Reigeluth (1988) stated that instruments applied to select screened materials should include criteria to assess five categories: curriculum design; subject matter content; readability; social content; and production quality. The criteria specified in each of the five categories need to identify particular characteristics of curriculum materials. Curriculum design criteria should be capable of assessing the congruence between materials and a state or local curriculum. Subject matter content criteria should be specified to identify the skills, knowledge and attitudes presented in the topics covered, and whether they are treated in depth or just mentioned. Readability criteria should not only be capable of assessing the reading level of materials, but also appropriateness, cohesiveness, unity, structure and style. Social content criteria should be specified on the basis of differentiating the unbiased treatment of racial, ethnic, religious, regional, career, political, socioeconomic, family, handicap, age and sex roles presented in materials in terms of general societal and specific community values. Production quality criteria should be capable of judging the physical and other external attributes of materials, such as convenience of size, sturdiness, quality of print and layout, and cost.

The specification of selection criteria needs to take into account the findings of research studies conducted in these fields. Such research findings are valuable in determining the suitability or unsuitability of applying particular criteria for judging certain characteristics in materials. Since curriculum design has been considered in the first section, the significant findings of research studies and their application to practice are considered for the categories of subject matter content coverage, readability, social content, and production quality.

9.2.2.6.1 Subject Matter Content Coverage

The major theme, identified in research studies on subject matter content coverage, is that a dichotomy exists between the 'real' world that students experience and the world portrayed in curriculum materials (Woodward et al., 1988). Such analyses indicate that science and social studies textbooks offer selective and, sometimes distorted, content whilst language arts, reading and mathematics materials offer students repetitive sequences of isolated skills.

Researchers have found that market pressures resulted in science textbooks becoming encyclopedic in an attempt to encompass every content coverage requirement of the curriculum. Such studies have shown that science textbooks require students to comprehend an extensive vocabulary of specialised and technical terms, and topics are treated in theoretical rather than descriptive terms. Another group of researchers have expressed concerns about the superficiality of science textbooks with their emphases upon memorisation and lack of attention to higher order processes. Other researchers have discussed the cursory treatment given to controversial issues in science textbooks.

Research on social studies and history textbooks has produced three significant studies that have influenced public debate in the United States on subject matter content coverage in curriculum materials. Fitzgerald (1979) studied history textbooks published since 1900 finding that the content had been influenced by various biases leading to interpretative revisions of American history to reflect current values. Sewall (1987) found that many social studies and history textbooks present simple prose, often lacking the qualities of good literature and fine history capable of inspiring the reader through vital treatment of the subject matter. Gagnon (1987) found that world history textbooks tend to neglect democracy's ideals, principles, origins, needs and significance, and that, when included, these concepts are not systematically presented. These reports provided sufficient impetus for the formation of an organisation to monitor standards for subject matter content in curriculum materials. Recently this body, the American Textbook Council (1994), published standards on content coverage to guide committees and adoption authorities to select suitable history textbooks.

Language arts and reading materials have reflected the ongoing controversy between conflicting theories, which have been postulated in an attempt to describe the process of reading comprehension. Research studies, which reflect these changes in the theory of reading instruction, produced several influential reports on the subject matter content coverage of reading materials. Influenced by behaviourist psychology, information transfer theorists presupposed that reading is a letter-by-letter and word-by-word process in which readers use textual materials in a 'bottom-up' manner, beginning with sound-symbol relationships, moving to vocabulary, then to syntactic rules, and so on. These theories gave rise to the approaches of 'look-say' and 'phonics analysis' used in basal readers (or reading schemes). Arguing that the 'look-say' approach should be replaced by the 'phonics analysis' approach, Flesch (1955) captured public attention at the time by stimulating considerable interest in the quality of basal readers. Information transfer theories were challenged during the late 1960s and 1970s by interactive theorists, who believed that reading of textual materials occurs in a 'top-down' manner, implying that meaning is paramount and other sources of information are accessed according to need. More recently, transactive theory, an extension of these interactive theories, holds that meaning encompasses more than the written text and reader's knowledge. The effect of controversy between competing theories on the teaching of reading comprehension is reflected in more recent studies. Anderson et al. (1984) reported a series of studies identifying variables affecting the quality of comprehension instruction offered in basal reading materials. Duffy et al. (1984) reported a series of studies on variables affecting the quality of comprehension in textbooks used in various subject areas. Goodman et al. (1988) examined the nature and role of basal reading materials in the terms of this debate.

The failure of authors and publishers to produce materials that give attention to problem-solving processes has been recognised as one of the important factors constraining the practical success of 'mathematics as problem solving' reforms in classrooms. Several studies have identified that mathematics textbooks are inadequate as a resource for students to acquire problem solving and other higher order cognitive processes.

9.2.2.6.2 Readability

It has been common practice over many years for publishers and selection committees to use readability formulas to match the reading levels of materials to students' reading abilities. As a consequence, Chall and Conard (1991) argued that publishers began reducing the vocabulary load of curriculum materials during the late 1920s in response to early readability studies. They offered several explanations for the reaction of publishers to these research findings: the cumulative effect of numerous studies; the applied nature of the research; and the democratisation of the student population. This trend prevailed until the early 1960s, when publishers began increasing the vocabulary load of their publications in response to the curriculum reform movement.

Recently, researchers have criticised the application of readability formulas to assist in writing or selecting curriculum materials on the grounds that they only take into account a few variables affecting comprehension, usually only word difficulty and sentence length, whilst ignoring less quantifiable variables such as content difficulty, organisation of ideas and authors' styles, and neglecting external effects upon readers such as motivation, interest, purpose and perseverance (Davison and Kantor, 1982; Armbruster et al., 1985). Applying readability formulas for writing results in text consisting of short, choppy sentences, which are difficult to read and lack style when read in discourse.

This evidence has stimulated investigation into either refining existing measures or finding alternative means to assess text difficulty. Some researchers have refined conventional readability measurement by focusing on cloze tests. Other researchers, however, have concentrated upon determining a judgmental means of matching the difficulty level of prose text to the abilities of students, termed 'considerateness'. Kantor et al. (1983) proposed that authors may write considerate text by complying to four criteria: choosing a discourse structure; establishing a coherent relationship between ideas; maintaining unity of purpose; and ensuring audience appropriateness.

9.2.2.6.3 Social Content

Concern over the treatment of minority groups in curriculum materials used in American schools arose as part of the drive for civil rights by minorities during the 1960s. Attention focused initially on African Americans, the most frequently studied of these groups, in reports by such organisations as the Anti-Defamation League of B'nai B'rith (Marcus, 1961) and the American Federation of Teachers (Sloan, 1966). Popular magazines, such as *Saturday Review*, *Atlantic* and *Newsweek* drew the subject to public attention during the mid-1960s. The California State Department of Education commissioned its own study (Stampp, 1964), and the Committee on Education and Labor of the United States Congress (1966) held hearings on textbooks for schools and the treatment of minorities. A number of systematic research studies, commencing at this time, examined the treatment of ethnic minorities in textbooks, women and sex roles in textbooks, the disabled, and the aged. Invariably, these studies reported inaccuracies, omissions and distortions in the representation of minorities in textbooks. Tyson-Bernstein and Woodward (1986) argued that such revisions, which probably had more influence on the content of American textbooks than any other force in recent times, led to a conservative backlash in the 1970s and 1980s.

The influence of the American civil rights movement, together with forces operating within Australian society during the post-war period, were responsible for raising concerns over the treatment of minority groups in curriculum materials used in Australian schools during the early 1970s. Several systematic research studies, commencing at this time, examined the treatment of Australian Aborigines and immigrants in textbooks, and documented the early research studies of racist bias in textbooks reported by Ian Spalding, Alan Doobov and Lorna Lippmann (Office of the Commissioner for Community Relations, 1979), sex bias in basal reading materials (Healy and Ryan, 1975; Bradley and Mortimer, 1978), and in mathematics, science and physical education materials. More recent research has extended this work with significant studies of racist bias (Cope, 1987), and gender bias (Freebody and Baker, 1987; Gilbert and Rowe, 1989) in curriculum materials used in Australian schools.

These developments led to pressures to exclude biases and stereotyping from curriculum materials, as well as rectifying omissions and inaccuracies concerning minority groups. Selection committees now apply criteria relating to a wide range of issues to evaluate the social content of curriculum materials. For instance, the Legal Compliance Committee in California evaluates curriculum materials for thirteen social content requirements: special circumstances applying to particular types of materials in terms of social content; the portrayal of male and female roles; the fair representation of majority and minority ethnic and cultural groups; the depiction of the aging process and participation by older persons; the depiction of participation by disabled persons; the balanced representation of the roles of entrepreneurs and workers; the depiction of the diversity of religious beliefs; the presentation of issues relating to ecology and the environment; the presentation of factual data and realistic values pertaining to dangerous substances; the demonstration of thrift, fire prevention, and humane treatment of animals and persons; the presentation of the Declaration of Independence and the Constitution of the United States; the omission of brand names and corporate logos; and the representation of good nutrition and exercise. Criteria encompassing a similar range of issues are also applied by state-level committees in Florida, whilst more restricted sets of criteria are used in many other states.

9.2.2.6.4 Production Quality

In 1960, representatives of the National Association of Textbook Directors in consultation with the American Educational Publishers Institute and the Book Manufacturer's Institute began working together to improve the quality and durability of the physical aspects of textbooks. An outcome of this activity was the publication of a manual, entitled *Official Manufacturing Standards and Specifications for Textbooks*. These standards and specifications were subsequently approved by 15 states for application in assessing production quality, to which curriculum materials used in these states must comply. The current edition of the *Manufacturing Standards and Specifications for Textbooks*, published in 1982, was developed and approved by the National Association of State Textbook Administrators, the Association of American Publishers and the Book Manufacturer's Institute. Such standards and specifications should be used as a guide for selection committees to develop criteria relating to production quality.

9.2.2.7 Organisation of the Selection Process

The practices applied by selection committees in the United States generally involve committee members reviewing submitted materials independently, and then meeting at a central location to discuss their evaluations. In some states, the tasks of selection committees are divided by organising committees into smaller working groups. For instance, the Florida Department of Education (1993) recommended that state instructional materials committees should choose from five options for dividing labour. For the first option, each committee member is assigned a limited number of submitted materials to evaluate, using all of the criteria. Reviews are then shared with other committee members for comment, before a final group decision is made. For the second option, each committee member is responsible for applying a limited number of criteria to review each submitted material. For the third option, each committee member is responsible for implementing sections of the submitted materials, or selected submitted materials, in their classrooms in addition to rating the materials according to the criteria. Each member presents data on the trial to the other members of the selection committee. For the fourth option, committee members are assigned to teams of reviewers, who are allocated a limited number of submitted materials to be reviewed against all criteria. For the fifth option, committee members are assigned to teams on the basis of expertise, and assigned a limited number of criteria or subtasks to be used in evaluating all of the submitted materials.

9.2.2.8 Final Selection Decisions

The final decisions of committees, involved in selecting curriculum materials, are often made in more formal situations. Final decision-making is often preceded by formal hearings involving publishers' representatives, members of special interest groups and the community. It often includes the preparation of a written report, detailing the committee's recommendations about the submitted materials for presentation to an adoption authority.

Final decision-making usually involves a process for combining information, derived from various sources, about the materials under consideration. These sources include individual reviewers' judgments, publishers' statements, public comments, the results of trials with students, and independent evaluations. Consideration of such different sources of information will provide multiple perspectives for making final judgments. Consequently, the process for combining information to form final judgments must be systematic, consistent and fair. This process requires that the same criteria are applied consistently to each material under consideration, so that the materials will be judged by the same standards. It involves establishing conditions to fulfill requirements for establishing intrarater consistency and interrater agreement. Intrarater consistency is met by individual reviewers adjusting their reviewing activities for such factors as personal health and work pressures, so that each material is reviewed under the same conditions. Interrater agreement is satisfied by different reviewers, who may offer varying perspectives because of their different backgrounds, forming judgments in the same manner using the same criteria.

The procedure for combining information from different sources must take into account that quantitative ratings on criteria representing different categories should be weighted according to their relative importance. This involves each committee member combining the ratings in each category, and then calculating the mean score for each category. Committee members need to reach an agreement about weighting each category according to its importance. Each committee member multiplies the average rating for each category by the appropriate weighting to obtain the weighted score. The final calculation involves combining the weighted scores from each category to calculate a total weighted average score for the material. These weighted average scores are then used to rank each of the submitted materials from first to last.

Quantitative data need to be considered together with sources of qualitative information in reaching final decisions about submitted materials. These sources include judgments by professional associations, publishers' statements, public comments, the results of trials with students, and independent evaluations. Following a review about the submitted materials, committee members are required to support or oppose the recommendation of each material. Final voting is conducted by either verbal roll call or secret ballot.

The results of the voting form the basis for a written statement of the committee's judgments about each submitted material. These statements present summaries of the quantitative and qualitative data, together with reviews about each of the submitted materials suitable for dissemination on an electronic database or in a printed form. These statements are often combine to form a lengthy report to an adoption authority, if more than one committee is involved in the selection process.

9.2.2.9 Challenge Procedures for Controversial Materials

The issues involved in the censorship of controversial materials need to be understand from consideration of the main areas of dispute. Although the longest and most hotly contested controversy in the United States referred to the debate between evolution and creationism, it was largely replaced by attacks from conservative Christians in the 1970s and 1980s on secular humanism, and in the 1990s on the New Age movement. The nebulous nature of both secular humanism and New Age philosophies makes each difficult to define, but the former term is held by conservative Christians to support self-authority, anti-Biblical bias, evolution, sexual permissiveness, anti-free enterprise, and one-world government, whilst New Age thought is held to advocate Eastern religious practices, environmentalism, globalism, the occult, and personal growth. These categories are often reflected in challenges involving a wide range of concerns about curriculum materials based on profanity, obscenity, erotic subject matter, and satanic influence. The majority of conservative censors, however, do not belong to organised groups, but comprise concerned parents and citizens compelled by their beliefs to act by preventing their children or other students from being corrupted by controversial materials. At the other end of the spectrum, radical activists calling for an increase in the representation of women, minority groups, and non-Western cultures in curriculum materials have also turned to censorship, intent on censoring all depictions they believe stereotype these groups, irrespective of the accuracy and the context in which they are presented.

Particular procedures to deal with challenges to materials, seen to be controversial by challengers, need to be incorporated into the selection process. These procedures should be established initially at the school level, but may also need to be supported at the state level by legal and political measures. Reichman (1988) argued that informal discussion may be used initially to resolve a complaint. If informal discussion is unsuccessful, the challenger should be required to complete a complaint form outlining the nature of the complaint. A written complaint should be considered by a review committee, whose members should be chosen on the basis of competence in the field of the subject matter being challenged and their potential fairness. The membership should be drawn from professional educators with some representation from administrators, and perhaps lay people, although their role should be advisory. A challenger should be given the opportunity to present his or her case orally to the review committee, as well as in writing. The review process should include the option of calling a public hearing and soliciting testimony in favour of retaining the challenged materials. The outcome of the review should be reported in writing to the local administrator, who should then inform the challenger of the outcome in writing. At this point, the decision of the review committee to remove, restrict or continue using the controversial material should be enforced. Avenues of appealing the decision of a review committee should be made available to challengers, who are dissatisfied with a review committee's decision. Appeals should be heard by a standing body, such as a local school board or council. Examples of established procedures for dealing with challenges are described in the case studies reported in Chapter 7 on California, and the Edmonds School District in Washington.

Reichman also presented guidelines for handling challenges that have proceeded beyond the school to the public arena, becoming censorship cases involving interest groups, crusaders, politicians and news media representatives. First, staff members of the school involved in the controversy should be kept informed of developments in the challenge. Administrators and school board or council members should also be kept informed of the events, and their beliefs about intellectual freedom reinforced. The school should publicise and defend the existing selection procedure as an adequate method for screening controversial materials. The school should maintain neutrality about the public controversy. All statements to the news media should be coordinated, and the principles of the case should be stressed. Supporters of intellectual freedom should be informed in advance about public hearings, radio and television talk shows held to discuss the issues of the controversy, so that censorship groups are not permitted to control the public debate. However, the lines of communication should be maintained with the challengers, so that the debate remains intellectual rather than becoming emotional. If legal action is foreshadowed, school administrators should seek appropriate legal assistance. When the case has been resolved, public officials, news media representatives and other individuals, who supported intellectual freedom, should be thanked for their participation and assistance. Finally, administrators and school boards or councils should meet to discuss how the case was handled and, if necessary, recommend improvements to the challenge procedure.

9.2.3 Prospective Improvements

It has been identified that a wide range of national, state and school-level authorities in Australia affect the selection of curriculum materials directly or indirectly. A significant finding is that the various techniques, methods and practices applied in Australian educational contexts to select curriculum materials are insufficiently integrated to form an organised and defensible selection process. An imperative lies with designing valid and reliable procedures that are capable of selecting materials of high quality to support the national curriculum framework. Furthermore, these procedures need to be implemented under conditions where they are integrated with patterns used to purchase curriculum materials, taking into account the various factors discussed in the first section. This conclusion is supported by the findings of a research study commissioned by Curriculum Corporation, in which Chris Cooper-Brown and Associates (1994) stressed the need to integrate procedures for purchasing and selecting curriculum materials for use in Australian schools.

It has been shown that the relative centralisation or decentralisation of decision-making in educational systems influences the extent to which educational authorities are likely to be able to control the organisation of many key functions, including the selection of curriculum materials. Comparison of prevailing patterns in the states and territories suggests that there is a strong relationship between the centralisation or decentralisation of curriculum provision and the selection of curriculum materials. The evidence indicates that the relative centralisation or decentralisation of decision-making in the states and territories falls into three patterns: state education agencies in New South Wales, Queensland and Western Australia, in which governance is primarily a responsibility of central offices, have been highly centralised; state and territory education agencies in South Australia, Tasmania and the Northern Territory, in which education professionals establish structures to satisfy needs, show different elements of both centralisation and decentralisation; and state and territory education agencies in Victoria and the Australian Capital Territory, in which decision-making is vested in school councils broadly representing community interest groups, show strong elements of decentralisation.

This situation is further complicated by evidence of recent or current shifts in decision-making authority occurring in all the states and territories, but particularly in the most centralised systems of New South Wales, Queensland and Western Australia, where changes have occurred as a result of education reforms. In general, these changes are devolving decision-making to a greater or lesser extent to various school-based authorities, which may be referred to under the collective title of school councils, although there is also some evidence that local-level administrative units are also being established. The significant implication of this trend is that educational authorities in the states and territories, together with federal authorities, should examine these circumstances to identify whether the selection of curriculum materials should be conducted by state-level, local-level, or school-based committees. A practical solution may be accomplished by adapting American practice by giving the responsibility for forming selection committees to local education agencies, as shown in Table 25. This may involve forming selection committees consisting of teachers with subject matter expertise from schools within the region or district, and lay members chosen from school councils.

The intention to form a selection committee needs to be accompanied by decisions about its composition. Evidence derived from research findings in the United States suggests that the selection process benefits from the involvement of a broad range of groups, although professional educators should predominate among the membership. Committees consisting of broad community membership, involving not only school administrators, teachers and resource specialists, but also parents and community members, form the most appropriate groups for selecting materials. This requirement suggests that selection committees should be established in local-level administrative units rather than individual schools, so that committees can draw members from a sufficiently large local population.

The work of selection committees needs to be supported by an inservice training program, which should be coordinated centrally at the federal level. The training programs designed by Connie Muther & Associates and the Florida Department of Education have been reported extensively in Chapter 7, and show exemplary features. These two training programs could form the basis for designing suitable programs to train members of selection committees in Australian contexts. Evidence from practice in the United States suggests that the provision of such a training program needs to be coordinated centrally by a specialist agency responsible for providing this service, particularly if the selection of materials is devolved to local-level committees.

An examination of practices employed in both statewide and local-level adoption states in the United States shows that the similarities between the various selection procedures are determined by generic factors inherent in the decision-making process for selecting curriculum materials. This conclusion seems to be supported by leading experts, whose work is based largely on bringing about improvement by refining existing procedures. The situation in Australia contrasts markedly, since the lack of research into identifying the decision-making process for selecting materials underscores the poor understanding of existing selection procedures used in schools, and supports a view that Australian educators have little appreciation of what is an organised decision-making process for selecting curriculum materials. There is clearly a need to develop valid and reliable processes for selecting curriculum materials in Australian schools by assessing the limitations of existing procedures and the benefits of adapting procedures used in the United States. Once this has been recognised, the decision-making process could be standardised as a set of several alternative procedures. Each state-level or local-level selection committee would then need to comply with specified certification requirements for the particular procedure it uses.

Recommendations for Improving the Selection Process

1. State and federal educational authorities should identify whether it is appropriate for the selection of curriculum materials to be conducted by state-level, local-level, or school-based committees.

2. State and federal educational authorities should identify and specify the appropriate factors, which should be taken into account in determining the composition of the membership on selection committees.

3. State and federal educational authorities should develop and promote a program, to be provided by a central agency, for training selection committee members.

4. State and federal educational authorities should specify a set of guidelines for selection procedures, to which selection committees should comply. Such guidelines should include elements for defining external factors influencing the selection of materials, conducting a curriculum review, specifying screening and review criteria within the five identified categories, identifying options for dividing labour for reviewing materials, combining information and voting on final decisions, and specifying procedures for challenges to controversial materials.

Some form of standardisation in the procedures would seem to be essential, particularly where the selection of materials is decentralised to local-level committees. It is expected that model selection procedures, designed for certifying committees, would include each of the elements described in the previous section. The first element involves specifying the factors affecting the selection process, such as estimating a budget and setting time limits. The second element involves requiring selection committees to conduct a review of either the state or local curriculum, prior to commencing the work of selecting materials. The third element involves specifying separate sets of screening and review criteria, which should cover five categories: curriculum design; subject matter content coverage; readability; social content; and production quality. The fourth element involves determining a range of options for which members of committees should employ to divide labour. The fifth element involves setting guidelines for selection committees to combine information obtained from various sources for making final decisions, and specifying voting procedures. The sixth element involves setting guidelines for selection committees to specify procedures to resolve challenges to controversial materials, which have previously been adopted.

9.3 The Role of Developers and Publishers of Curriculum Materials

9.3.1 Overview of the Current Situation in Australia

In an account of the publishing industry, Wilson (1993) reported that the present situation in Australia is complex. As a result of successive takeovers, 30 companies control 80 percent of the publishing trade, with only two of the largest ten companies being based in Australia. Each of these companies publishes books under an array of imprints, usually representing previous competitors acquired through takeovers. The situation in educational publishing is similar. Each of the six major commercial publishers of educational materials in Australia is a branch of a transnational publisher. In 1989, the Australian Book Publishers Association reported that almost two-fifths of $500 million spent on books annually was spent on educational books. McQueen (1986) reported that the proportion of Australian-produced educational books increased from 40 percent in 1979 to 60 percent in 1986, although there was an imbalance between the levels with respective proportions of 61 percent for the primary level, 78 percent for the secondary level, and 41 percent for the tertiary level. In 1989, three times as much of more than $82 million spent annually on educational materials for the primary and secondary levels was spent on materials produced in Australia as imported materials, although twice as much of more than $60 million spent annually on texts for the tertiary level was spent on imported books as books produced in Australia.

In one of the few accounts offered by an Australian publishing company executive, Hudson (1980) discussed ways that educational and technological changes have influenced the educational publishing industry in Australia. Hudson reported that the prevailing climate in Australian education until the 1960s required minimal participation by publishers in the production of curriculum materials. Using a similar process to publishing novels, a textbook author submitted a manuscript to a publisher, who assessed whether its publication could become a commercially profitable venture. If the publisher supported the material's publication, it was sent to a competent typesetter, who prepared galley proofs, which were subsequently presented in page lengths, printed, folded, collated and bound. This resulted in high production quality, but the materials were sometimes didactic and dull. This process was affected by two changes occurring during the 1960s. Changes in publishing technology permitted greater flexibility in the design of curriculum materials, so that constraints on producing illustrations and presentation in colour were removed or reduced. This led to the development of publishers' art and production departments. The growing predominance of child-centred educational philosophy demanded that publishers became more informed about educational practices. These changes led to a cooperative approach, in which an author presented a proposal for a material to a publisher, who assessed whether the subject matter and learning approach were likely to be commercially profitable. If the publisher agreed to publish the proposal, design plans and drafts were exchanged between the author until the text was completed, and the material was then sent for printing. This led to more extensive involvement by publishers during the 1970s into the field of independent materials development. Inventing their own publishing projects, publishers conducted research projects and employed editors to write the materials, publishing several reading and science programs as well as reference materials during this period.

Research into the practices used by publishers and booksellers to distribute materials to educational systems in Australia appears to be particularly neglected. Matthews (1981) noted that schools situated in metropolitan areas are well served by booksellers and publishers' representatives, who often call unannounced with displays of books. On the other hand, schools located in rural areas are poorly served, since few booksellers and publishers' representatives regularly travel to rural centres. Often, the lack of service provided to rural schools requires teacher-librarians to rely on publishers' catalogues, or make occasional trips to booksellers in the nearest large town. Matthews identified differences between services offered by representatives of large publishers and small booksellers, finding the service offered by smaller operators to be preferable because it is more personalised. Matthews concluded that the ad hoc nature of many contacts between schools and booksellers or publishers' representatives means that invariably appointments should be made a month in advance, so that arrangements can be made for teachers to view displays. This view is supported by evidence from findings obtained from the survey reported in Chapter 5. It was found that teacher-librarians form the main group of personnel in schools contacted, although booksellers and publishers' representatives had a wider influence on the selection of materials in schools. Their influence on older respondents, teacher-librarians and school administrators, respondents from large schools, secondary schools, and urban schools was significantly greater than on younger respondents, teachers, respondents from small schools, primary schools, and rural schools.

The importance that projects and activities sponsored by state education agencies, institutions of higher education and other educational organisations have had on the development and marketing of curriculum materials in Australian educational systems is reflected by a more substantial amount of research reported in educational literature. Undoubtedly, involvement by these organisations stems from large-scale curriculum reform projects initiated during the 1960s and 1970s. The need for a central agency to coordinate these projects led to the foundation of CDC, which played a central role in distributing curriculum materials developed by these projects. A shift in the direction of policy in the 1980s led to a decline in emphasis placed on developing and distributing curriculum materials, although CDC retained an important role in this work through small-scale projects (Gough, 1981; Madin, 1981; Robottom, 1981; Davey and Milne, 1983; Fraser, 1985b; Mitchell and Traill, 1986; Welch, 1986). These activities appear to have stimulated a wider group of organisations to become involved in developing and distributing curriculum materials during the 1980s. The Australian Academy of Science became involved in developing curriculum materials for science and mathematics (Birch, 1984; Lowe and Stephens, 1987; Dircks, 1988). State and territory education agencies, other federal and state agencies, foundations and professional associations also became involved in developing curriculum materials for gifted children (Print, 1981; Print, 1983; Allen, 1989; Allen, 1992), multicultural education (Clyne, 1986; Kennedy and McDonald, 1986), health education (Kennedy, 1984), and geography (Stowell and Bentley, 1988). Since its foundation in 1990, Curriculum Corporation has continued the work of CDC in developing and publishing curriculum materials. The implementation of the national statements and profiles is predicted to expand its role in developing and publishing curriculum materials, as schools demand new materials that are more closely aligned to the national curriculum framework. This increased demand is recognised in the publication of guidelines for developers of interactive multimedia courseware and curriculum materials, reported in Chapter 3.

9.3.2 Strategies for Increasing the Role of Developers and Publishers

The primary responsibility of publishers lies with the development of curriculum materials. The need to satisfy consumer demands for high quality design and content in curriculum materials led to calls for publishers to incorporate within the developmental process, procedures for gathering and analysing data obtained from verifying materials with appropriate groups of students, and then revising the materials on the basis of the results. The history of this procedure, termed learner verification and revision in the United States, is examined in detail, because of its implications for involving teachers and students in the process of developing materials.

At a later stage, publishers may also play a significant role in the process of selecting and purchasing curriculum materials. Initially, publishers may be invited to submit bids and sample materials in subject areas scheduled for adoption. At a later stage, publishers or their representatives may be permitted to make presentations to committee members. The action of adoption may be formalised by a written contract between the education agency and a publisher to supply adopted materials to schools for the period of the adoption cycle. Publishers may be responsible for providing a system for bulk ordering adopted materials held in central depositories by processing orders and distributing materials to schools. Participation in these activities offers a means for publishers to contribute to the selection of materials in areas of their expertise, but also allows educators to limit their contacts with the educational community to essential activities.

9.3.2.1 Verification of Product Development

Verification of curriculum materials with students, who are likely to use them, has become accepted as an important element in the process of development. In reporting the developmental process used by commercial publishers of textbooks, Young (1990) identified seven steps: stating a rationale and detailed specifications for the material; surveying market needs and competitive products; reviewing recent research; developing the material by employing a production team of authors, subject specialists, consultants, content and copy editors, a photo researcher, an art director, a production manager and sales personnel overseen by a senior editor; verifying the particular components; developing promotional materials; and using sales personnel to market the product. Nathenson and Henderson (1980) identified that a similar, but more stringent process, often referred to as the systems approach, is applied to developing curriculum materials at government sponsored agencies.

Unfortunately, the techniques applied in the process of verification have been described in educational literature under many different and imprecise terms. Brickell and Aslanian (1979) categorised six frequently mentioned techniques: inspection; simulation; pilot trial; pilot test; field trial; and field test. These range from informal procedures used at an early stage in the developmental phase to rigorous testing used at the close of the developmental phase. Whilst the more informal techniques have been widely applied to develop materials since the large-scale projects of the curriculum reform movement, rigorous field tests have only been used to develop materials in heavily subsidised contexts. Nathenson and Henderson stated that these techniques have been applied within four broad approaches to verification: developmental testing; formative evaluation; formative testing; and learner verification and revision. Developmental testing, which was first used in programmed instruction, consists of three phases: pilot trialling a first draft with a few students to develop a prototype; pilot testing the prototype with a larger group of students; and field testing the final product in classroom situations. Introduced by Michael Scriven in 1967, formative evaluation covers a broad range of educational activities including the verification of curriculum materials. In this respect, it involves collecting data in various ways from students, experts and a variety of other sources. Formative research, which has much in common with formative evaluation, has been applied mainly in the context of developing educational films and television programs, such as Children's Television Workshop's *Sesame Street* and *The Electric Company*. These programs were subjected to testing by children viewing individual segments. The term, learner verification and revision, which was coined by Kenneth Komoski in 1971, refers to the collection and analysis of data about materials from students, and their subsequent revision on the basis of the results.

Komoski's attempt to promote learner verification and revision in the United States during the 1970s as a means to improve the learning effectiveness of curriculum materials represents the only large-scale effort to mandate requirements for verifying product development (Educational Products Information Exchange Institute, 1980b). As a result of Komoski's testimony before the Select Subcommittee on Education of the Committee on Education and Labor of the House of Representatives in 1971, that most materials were not being revised on the basis of feedback gathered from learners, learner verification and revision was given exposure in the national press. It became controversial between 1972 and 1977, when EPIE Institute supported efforts in California and Florida to enact legislative requirements for learner verification and revision. In June 1974, EPIE Institute announced to 200 representatives of publishing companies gathered at the Association of American Publishers' Educational Marketing Day that it would sponsor a national task force to define the process inherent in learner verification and revision, and develop practical guidelines for its implementation by both publishers and educators. The three working groups of the 36-member National Learner Verification and Revision Task Force, consisting of representatives from national, state and local education agencies and publishing companies, first met in December 1974, and later in January and February of 1975. Educational Products Information Exchange Institute (1975b) published pilot guidelines as a result of the work of the National Learner Verification and Revision Task Force, which recommended that publishers should incorporate a curriculum design into their products, investigate intended learner options, state the conditions for use of their products, specify techniques for gathering data from learners, report on validation groups used in learner verification and revision, report an analysis of the findings, and make improvements to their products on the basis of the findings. Although the pilot guidelines were distributed to 200 publishers, few adopted them.

A set of model legislation, derived from the pilot guidelines, was developed by the Lawyers' Committee for Civil Rights Under Law (Geffert, 1975). The model legislation specified that learner verification and revision legislation should meet seven requirements: protect publishers from unrealistic, misinformed or conflicting learner verification demands; prevent learner verification and revision from becoming a subject of competition for sales among publishers; ensure that the cost of learner verification and revision efforts reflect its priority among educational improvements; protect teacher and student rights from infringement by learner verification and revision; provide a basis for cooperation between publishers and educators in implementing learner verification and revision; remedy the inadequacy of legal standards in these areas; and identify alternative ways to satisfy these requirements. Late in 1975, the Virginia Education Association, and legislators in Michigan and Maryland, became interested in supporting the model legislation. However, these groups failed to introduce the model legislation into their respective legislatures, and the model legislation failed to inspire legislation in other states. The attempt to introduce learner verification and revision in California stalled in 1977, because of the lack of support by publishers and inaction by educators. Although the effort in Florida, reported in Chapter 7, was more successful, Florida's learner verification and revision legislation was repealed in 1989.

The startling failure of this effort in requiring publishers to apply learner verification and revision through mandated legislation in most states in the 1970s may have disguised other inherent problems in applying these techniques in the educational marketplace, which were not recognised at that time. From the advantage of hindsight, Tyson-Bernstein (1988) argued that mandating learner verification and revision requirements has sometimes led publishers to manipulate these techniques into effective sales strategies. Some publishers, however, adopted learner verification and revision procedures on a voluntary basis. This led Muther (1985c) to recommend that teachers should examine publishers' learner verification and revision statements as an alternative to conducting their own pilot trials. The failure of those supporting the introduction of learner verification and revision to gain general cooperation from most publishers, however, has meant instead that educators should apply similar techniques to verify materials before purchase.

9.3.2.2 Participation in the Selection Procedure

9.3.2.2.1 Submission of Bids and Samples

Publishers may be involved in the selection process from an early stage by inviting them to submit bids and samples of materials. These activities, which follow a general pattern, may be informal and uncomplicated in decentralised selection procedures, but more formalised and complex in centralised selection procedures. Often, state education agencies in the United States, which use statewide selection procedures, require publishers to register an interest in participating in the selection process. In Oklahoma, for instance, publishers registering with the secretary of the State Textbook Committee must provide the name of the publishing company, addresses of the main office, regional and local offices, names of contacts for each location, names of as many as four Oklahoma representatives and their telephone numbers, and two mailing addresses.

The chief state school officer initiates the selection process by authorising the distribution of bid materials to publishers, and places advertisements in newspapers. In Indiana, for example, the Indiana Department of Education sends all publishers on the mailing list a copy of its manual, *Policy and Procedures for Textbook Adoptions*, containing copies of bid forms and other information about the selection procedure. Publishers, who wish to submit materials for consideration, are required to complete an intent to bid form for each material, sending copies to the Indiana Department of Education's Textbook Adoptions office, members of the Advisory Committee on Textbook Adoptions, each public display centre, and each reviewer. Subsequently, a person having authority to bind the publisher is required to submit a completed copy of the official bid form for each submitted material by a specified date. If authority is approved by a person other than the publishing company's president or secretary, proof of authority must be attached. Furthermore, the publisher must submit evidence of authority to conduct business in Indiana. The official bid form must be signed by a notary, and enclosed in an envelope labelled Official Bid.

Sample copies of each material must be delivered to each member of the Advisory Committee on Textbook Adoptions, each reviewer, and each public display centre by the specified date. Labels must be placed on the front of all submitted materials, to assist in identifying the subject area and the publisher's identity. In addition, an official vault sample must be labelled and deposited in the Indiana Department of Education's Textbook Adoptions office. Bids may be rejected if the vault, advisors', reviewers', and public display centres' sample copies are not delivered by specified dates.

The practice of publishers offering inducements, such as, free professional and supplemental materials to support a textbook series, piloting a material on condition it is purchased, or offering free materials on condition that other materials are purchased, has been criticised universally by experts. Muther (1986b) suggested that local school districts could overcome the temptation of accepting inducements by adopting five strategies: establishing and enforcing a selection policy that states price and free materials will not be a factor; providing resources such as published reviews; giving reviewers time and incentive for selecting materials; basing decisions on materials which best meet the needs of teachers and students; and requiring the selection committee to provide evidence that a material meets the goals and needs identified.

9.3.2.2.2 Publishers' Presentations

A common feature of many selection procedures is the provision for publishers' representatives to present oral statements to selection committees about their products. The practice of holding publishers' presentations is illustrated by the extensive schedule conducted at both the state and local levels in Mississippi (Mississippi State Board of Education and Depository School Book Supply Company, 1992). Following their review of submitted materials, the appropriate State Rating Committee hears a presentation from each publisher during the period between late October and early November. Each publisher is given a specified time allotment of 25 minutes for one material, 35 minutes for two materials, 60 minutes for an elementary-high school series of 3 or more materials, or 90 minutes for two or more elementary-high school series. Other contacts between members of the State Rating Committees and publishers are prohibited during the selection process. Following the annual state adoption of materials in December, the Mississippi State Department of Education conducts a series of Local Textbook Selection Hearings during the following January and February in geographically dispersed population centres throughout Mississippi in nineteen Local Textbook Selection Hearings districts: Moss Point; Long Beach; Hattiesburg; Laurel; Columbia; Brookhaven; Natchez; Vicksburg; Newton; Philadelphia; Starkville; Tupelo; Senatobia; Corinth; Oxford; Clarksdale; Indianola; Greenwood; and Jackson. The Local Textbook Selection Hearings afford an opportunity for publishers of recently adopted materials to make voluntary presentations and answer questions before a public audience including Local Selection Committee members. Each publisher is permitted to send up to five representatives or substitutes, certified by the Mississippi State Department of Education, to each Local Textbook Selection Hearing, but is not permitted to contact local school districts without approval. The State Board discourages local school districts from conducting separate hearings independently from the Local Textbook Selection Hearing, preferring hearing participants to attend the Local Textbook Selection Hearing within the hearing district in which their school district lies. Local Selection Committees in each school district then participate in textbook selection ballots, which are finalised within a month following the Local Textbook Selection Hearing for the hearing district in which their school district lies.

Tyson-Bernstein (1988) argued that such presentations may sharpen selection committee members' awareness about a material's design and potential for teaching and learning. In an attempt to analyse empirical evidence about the value of such presentations, Marshall (1986) found from a longitudinal study of textbook adoptions in Texas in 1971, 1980 and 1981, that no clear effect was evident about publishers' influence on selection committee members' decisions. Two-thirds of members on the 1971 State Textbook Committee reported some publisher influence, nearly two-thirds of members on the 1980 State Textbook Committee believed that they were not influenced, and the 1981 State Textbook Committee members were evenly divided. Although publishers were most influential in directing selection committee members' attention to the strengths of their own products and the weaknesses of their competitors' products, other forms of influence were not prevalent. Marshall found that publishers frequently established professional and personal friendships with the Commissioner, and staff of the Texas Education Agency responsible for drafting proclamations and reviewing materials, but their influence on administrators occurred only through informal relationships. On the other hand, most state board members reported that publishers did not influence their decisions about particular materials. Marshall attributed the lack of publishers' influence on board members' to more perceptive recognition of publishers' potential to influence, few common relationships between the two groups, and the overriding concern of board members with controversial materials.

9.3.2.2.3 Bonds, Contracts, and Prices

A number of statewide adoption states require publishers to deposit a bond as a guarantee for performance of an adoption contract. Some states require the bond to be paid with the bid, whilst in other states the bond is deposited upon signing an adoption contract. The sums publishers are required to deposit as performance bonds vary from $500 to $10,000 for each submitted or adopted material. Tyson-Bernstein (1988) stated that performance bonds arose in the late nineteenth century as a means of protecting educational systems from publishers, who failed to deliver contracted materials because of unscrupulous practices, or poor transportation and communication systems. She concluded that performance bonds represent a relic of frontier society, having no place in ethical business practices of contemporary American society, since they restrict the selection process to large publishing companies, because small publishers cannot afford to enter the contest.

Furthermore, statewide adoption states require publishers of adopted materials to enter a legal contract with the adoption authority. In Indiana, for example, the contract is prepared by the Indiana Department of Education on a legal form approved by the attorney general, and signed by the appropriate officers of the publishing company, and then returned together with a performance bond, to the Indiana Department of Education for signature by state officials. One copy of the contract is filed with the state superintendent and the other with the publisher.

Most statewide adoption states and a few local-level adoption states specify particular requirements about prices, to which publishers must comply when conducting business. The complexity of price requirements is reflected in the situation prevailing in Arkansas. Initially, the publisher is required to submit the price the publishing company agrees to sell a material to the Arkansas Department of Education on the bid form. The Arkansas State Board of Education has authority to permit publishers to bid at the current wholesale price, or require the publisher to reduce the price to the lowest existing contract price in other states. After signing an adoption contract, the publisher must automatically reduce prices in Arkansas to match a contract made elsewhere at a lower price. The Arkansas State Board of Education also has authority to require a publisher to supply a special or state edition at the contract price prevailing in other states. On the other hand, the Arkansas State Board of Education is required to renegotiate with the publisher a price increase, which is no higher than the lowest contract price for which the material is sold elsewhere, for the last three years of the adoption contract, if the Consumer Price Index increases by 12 percent or more during the first two years of the adoption contract.

9.3.2.2.4 Substitutions, Exchanges and Depositories

A number of statewide adoption states permit publishers to substitute an adopted material with a new edition during the adoption contract. In California, for example, a publisher wishing to substitute a new edition submits a request to the California Department of Education's Office of Curriculum Frameworks and Instructional Resources, which verifies whether the new edition could be used in conjunction with the old edition in a classroom situation. In addition, all new portions to be substituted in the adopted material must comply with social content requirements. Once approved, the new edition is automatically placed on the state-adopted list for the remainder of the adoption contract. If a publisher despatches an unauthorised new edition to schools, all payments due to the publisher are withheld pending approval. Neither the California Department of Education nor the school district is responsible for paying for an unauthorised despatch.

A few statewide adoption states require publishers to provide facilities for exchanging old materials. In West Virginia, for example, a contracted publisher is required to arrange for county boards of education to allow students to exchange materials, for which adoption contracts have expired, for newly adopted materials at prices no less than those offered in other states. The exchange privilege must be provided in at least three localities in each county over a period of one school year.

A number of statewide adoption states require publishers to maintain depositories for holding supplies of state-adopted materials. In Mississippi, for example, publishers operate the School Book Supply Company, which maintains a depository in Jackson. Each publisher, who submits a bid, is required to send a specified number of sets of sample copies of each submitted material to the School Book Supply Company's depository for distribution to each member of the appropriate State Rating Committee, local selection committees, and the Mississippi State Department of Education. Following completion of reviewing by the State Rating Committee and local selection committees, the copies of review samples are returned to the School Book Supply Company's depository. Once an adoption contract as been awarded, the publisher is required to execute a contract with the School Book Supply Company for the distribution of state-adopted materials to schools throughout Mississippi. The publisher is requested to deposit a stock of materials at the School Book Supply Company's depository, sufficient to meet all reasonable and immediate demands. Local school districts place orders for newly adopted materials for use in the forthcoming school year with the School Book Supply Company's depository, which sends the requisite numbers of copies to each school district.

9.3.3 Prospective Improvements

It has been shown that publishers play an important informal role in the selection of curriculum materials in Australian education, but that their contribution would be more substantial and significant if their participation was organised at particular stages of the developmental and selection phases. The evidence suggests that both commercial and non-commercial publishers of curriculum materials in Australia are taking a more proactive role in developing materials that meet educational needs. On the other hand, the networks of booksellers and distributors do not appear to be fulfilling the needs of primary schools, small schools and rural schools by providing an adequate distribution of curriculum materials.

The need to involve publishers in verifying their products with groups of students is essential. It has been shown from efforts in the United States, however, that handing this responsibility solely to publishers was problematical, and eventually led to the abandonment of learner verification and revision requirements. It seems more appropriate that publishers should collaborate with educators in verifying their products with students during the developmental phase. The incorporation of requirements for verifying materials in guidelines for developers of curriculum materials, recently published by Curriculum Corporation, forms an important initial step in involving non-commercial producers in a collaborative process for developing curriculum materials. There is a need, however, for educators to invite cooperation from the commercial publishing industry to develop and implement comprehensive approaches and practical techniques for verifying their products in schools.

Publishers also have considerable potential for contributing expertise to improving the selection of curriculum materials. This contribution can be categorised into four main areas: inviting publishers and producers to submit bids and samples for prospective selection of new materials; inviting publishers to offer written and oral presentations about their materials to selection committees; establishing favourable contracts for the supply of materials to schools; and seeking publishers' participation in the substitution, storage and delivery of materials to schools. The extent to which publishers are likely to contribute to activities in each of these areas will be affected by a number of factors, including the influence of existing practices, and the extent to which selection procedures are decentralised or centralised.

Recommendations for Increasing the Participation of Developers and Publishers of Curriculum Materials

1. State and federal educational authorities should convene a conference involving representatives from the Australian Book Publishers Association, Australian Booksellers Association, National Book Council, Children's Book Council of Australia, and other interested groups to determine cooperative activities between publishers and educators for developing and selecting curriculum materials.

2. State and federal educational authorities should consult with developers and publishers to identify practical ways for verifying curriculum materials in schools.

3. State and federal educational authorities should consult publishers and producers of curriculum materials about practical ways for developing and implementing a procedure for local selection committees to invite submissions of bids and samples from publishers and producers.

4. State and federal educational authorities should consult publishers and producers of curriculum materials about forming local selection hearings districts for holding publishers' presentations to members of local selection committees.

5. State and federal educational authorities should establish procedures for allowing state and territory education agencies, or local adoption authorities, to negotiate favourable contracts with publishers and producers for the supply of curriculum materials.

6. State and federal educational authorities should consult publishers and producers of curriculum materials about practical ways for implementing procedures for publishers and producers to introduce substitutions, and cooperate in establishing and maintaining depositories.

An initial activity in establishing a procedure for inviting publishers to submit bids and samples could involve establishing a register of commercial and non-commercial publishers and producers. It would be feasible for a federal agency, such as Curriculum Corporation, to establish and maintain such a register given the relatively small number of publishers and producers involved in the educational marketplace in Australia. Copies of the register could be sent to state and territory departments of education for distribution to local selection committees. It may also be feasible for Curriculum Corporation to establish a centralised procedure for inviting and collecting bids, and provide this information to state and territory departments of education for distribution to local selection committees. It would be appropriate, however, for publishers to send review copies directly to local selection committees, because of the decentralised nature of selection procedures in Australian educational systems.

The participation of publishers and producers of curriculum materials in making presentations to selection committees about their products potentially forms their most valuable contribution. It would be feasible for educational authorities, publishers and producers of curriculum materials in Australia to cooperate in establishing a schedule for holding local selection hearings in geographically dispersed population centres across Australia, to which members of local selection committees could attend. Local selection hearings districts could be formed, using existing regions or districts of state and territory education agencies, with hearings being held in selected regional and district offices, as listed in Table 25.

There is a need for educational authorities in Australia to negotiate with publishers more forcefully about the marketing of curriculum materials. The application of an organised selection process, which leads to the formal adoption of particular materials submitted by publishers, would provide local adoption authorities with the means to negotiate prices to be paid to publishers for bulk supplying of materials. Clearly, educational authorities can negotiate from a position of greater strength, when centralised procedures lead to larger quantities of materials being involved in adoptions. It may be practical in Queensland and Western Australia, where relatively centralised procedures for selecting curriculum materials prevail, for state education agencies to negotiate favourable prices with publishers on behalf of local selection committees. Furthermore, it would be feasible for a federal agency, such as Curriculum Corporation, to monitor prices paid to publishers and producers. This information could be distributed to local selection committees to assist in negotiating favourable contracts with publishers.

The introduction of formal adoption contracts, signed by both educational authorities and publishers for periods of eight years, require establishing the means for publishers to substitute new editions of adopted materials, thereby ensuring that schools are provided with current editions. It would be practical for educational authorities, publishers and producers of curriculum materials to cooperate on devising a practical means for publishers and producers to nominate substitutions. Similar practices could be established, requiring publishers to exchange adopted materials for which contracts have expired, for newly adopted materials. Educational authorities could also confer with publishers and producers on the cooperative operation of depositories for holding supplies of materials. Central statewide depositories could be established in states with centralised selection procedures, or a decentralised network of depositories could be established in education resource centres.

9.4 Public Participation in the Selection Process

9.4.1 Overview of the Current Situation in Australia

Citizen participation in the selection process has not been a general feature in Australian settings. Although subjects involved in the survey, reported in Chapter 5, indicated that special interest groups had only a moderate influence on the selection of materials in Australian schools, evidence from another source suggests that the involvement of these groups in challenges may be more extensive than often recognised. The effect of their influence, however, has been largely restricted to incorporating challenge procedures within the selection process, rather than allowing citizens to participate directly in the selection of curriculum materials.

The incorporation of display centres as components of selection procedures in Victoria, Tasmania, and Western Australia has been reported in Chapter 4, but the intended audiences have been largely restricted to educators. Although it has been reported that education centres have been used for disseminating curriculum materials to teachers, they have not been used for collecting public input about the selection of curriculum materials (Howe, 1978; Treagust et al., 1985).

9.4.2 Strategies for Increasing Public Participation

The need to involve individual citizens in the selection process has been accomplished largely by incorporating two features within selection procedures. First, display centres were established in education centres or institutions of higher education for the purpose of displaying curriculum materials to the public. For instance, the extensive network of Learning Resources Display Centres, established in California in 1972, also serves as reception points for collecting public comments about the materials on display. Second, hearings were instituted before selection committees or adoption authorities to gather written and oral testimony from citizens. The incorporation of public hearings, which form highly visible components of selection procedures in statewide adoption states, appears to be recent. For instance, they were introduced in Texas in 1969, and as recently as 1981 in Alabama as a means of avoiding the necessity of calling individual testimony before the State Board.

9.4.2.1 Display Centres

Public display centres form an important component in the centralised selection processes operated by statewide adoption states. From data gathered during the survey, it was identified that in the states of Alabama, Idaho and South Carolina, public review centres are established in geographically dispersed state-supported colleges and universities, which agree to host them. In Louisiana, public libraries in New Orleans, Baton Rouge, Shreveport, Monroe, Alexandria, Lake Charles, Lafayette, Houma, and Natchitoches are contacted for use of their facilities for public displays, and if they are unable to accommodate the display, the Louisiana State Department of Education selects alternate sites. In California and Indiana, display centres are maintained on a more regular basis in a combination of institutions of higher education and education centres.

The operation of public display centres can be best understood by an examination of the extensive network of 26 Learning Resources Display Centres operated by the California Department of Education. The Learning Resources Display Centres have five main functions: to provide public display of materials under consideration; to serve as a resource for members of the Curriculum Commission, State Board and other interested persons; to serve as a resource to district and county staff in receiving newly adopted materials for local selection; to post the Curriculum Commission's recommendations and the State Board's adoption list; and to receive public comments and forward them to the Curriculum Commission. Publishers and producers send copies of materials submitted for adoption directly to the Learning Resources Display Centres in accordance with instructions issued by the California Department of Education, whose staff also supply the Learning Resources Display Centres with promotional materials to facilitate displays and copies of public comment forms. The Learning Resources Display Centres are required to advertise the displays in the local media in order to generate public awareness. Comments by citizens are required to be written on public comment forms, and those submitted before advertised deadlines, are sent to the California Department of Education, where they are divided into three categories: comments pertaining to legal compliance issues, which specify an intention to appeal; comments dealing with educational content; and comments made only for the publisher's information. For individual citizens choosing the first option, publishers are notified and given 30 days to respond. Public comments dealing with educational content are submitted to the Curriculum Commission for consideration, and individual citizens have the opportunity of appearing at the Curriculum Commission's public hearings. The chairperson of the appropriate Subject Matter Committee maintains a file of public comment forms for the duration of the review. Comments on public input are sent to the State Board with the Curriculum Commission's report.

The California Department of Education then arranges for the public display of those materials recommended by the Curriculum Commission in the Learning Resources Display Centres for a period of 30 days before adoption. Appropriate publicity is generated by the California Department of Education and the Learning Resources Display Centres about the display. Public comment forms are forwarded by the Learning Resources Display Centres to the California Department of Education, which presents them to the State Board.

9.4.2.2 Public Hearings

Citizen participation has become a more important feature of both centralised and decentralised procedures for selecting curriculum materials due to the increased activities of special interest groups in the United States over the last two decades. Wong and Loveless (1991) argued that challenges mounted by special interest groups against controversial materials represent an important factor transforming the institutional stability of selection procedures dominated by administrators, reviewers, and publishers.

The growing influence of citizen participation in the selection process can be understood by examining the attempt in California to defuse controversy about curriculum materials by extending the scope for citizens to participate. Citizens have opportunities to present comments on submitted materials before two bodies: first, public comment before the Curriculum Commission at its regular meetings, committee meetings, or formal public hearings; and second, public comment before the State Board. Individual citizens wishing to guarantee an opportunity to speak at meetings of the Curriculum Commission are required to submit a written request to the Commission secretary ten days in advance of its next meeting, detailing the subject of the complaint, position to be taken, and a summary of the presentation. At least 30 copies of the presenter's discussion should be included or distributed at the meeting. At the meeting, the chairperson determines how many presenters may speak, giving priority to those who have made written requests in advance. Each presentation at regular meetings is limited to three minutes, whilst speakers are given five minutes at the formal public hearings. Individual citizens, who wish to speak, but who have not made written requests in advance, are required to complete request to speak forms, presenting them to the secretary before their presentations. The chairperson may limit the number of speakers or the time for presentations in order to expedite hearing more people in the time available. At the discretion of the chairperson, individual citizens may be heard at other times. The chairperson allows input on items not on the agenda, if time is available. An open forum for general input is scheduled for each regular meeting of the Curriculum Commission. In addition, the Curriculum Commission also circulates written comments, received 10 days in advance, to each commissioner. The chairperson summarises this input at the beginning of the meeting.

The effect of citizen presentations on selection committee members, however, is not well understood. Marshall (1986) reported that the effect of challengers in Texas, all of whom were associated with the Gablers, on members of the State Textbook Committee was inconclusive, but that their influence on State Board members was significant. State Textbook Committee members in 1971 and 1980 were divided between organisation and presentation of content and personal bias as the major concern of challengers, whilst 1981 State Textbook Committee members identified personal bias. Slightly more than half of the 1971 State Textbook Committee members reported being influenced by challengers, whereas the 1980 and 1981 State Textbook Committee members reported challengers had no influence on their decisions. The main influence of challengers on Texas Education Agency staff was on their wording of proclamations, which became more lengthy in an effort to address challenged issues. A second influence was the ability of challengers to focus Texas Education Agency reviewers on contentious issues in materials. A majority of members from each of the state boards in 1971, 1980 and 1981 acknowledged the influence of challengers at public hearings and through personal contacts on their selection of textbooks.

9.4.3 Prospective Improvements

It has been shown that the scope for public participation in the selection procedures used in Australian educational systems is very limited. Evidence from the United States suggests that the growing involvement of citizens in the selection process has probably arisen from the pressures exerted by the organised activities of special interest groups on de-institutionalising stability in selection procedures, thereby forcing educational authorities to incorporate features for involving citizens in order to preserve institutional stability. In the main, this threat has been handled in Australia by incorporating challenge procedures within the selection process. The appointment by the New South Wales Board of Studies of a reference group to screen literature texts represents one of the few instances of an education agency in Australia institutionalising procedures for involving special interest groups in selecting materials. Challenge procedures, however, are often inadequate to resolve disputes once organised special interest groups become involved in mounting challenges. Alternative procedures then need to be employed for involving citizens more generally in the selection process.

It would be feasible for educational authorities to establish public display centres in geographically dispersed population centres throughout Australia as a suitable means for presenting materials that publishers and producers have submitted for selection to the general public. It is suggested that public display centres should be established in the same regional and district offices where local selection hearings are held. It would be appropriate for educational authorities to manage public display centres on similar lines to curriculum service centres, education resource centres, and teachers' centres. Procedures also need to be implemented for publishers to send samples to display centres, to advertise displays in the mass media, collect and distribute public input to local selection committees and adoption authorities. Citizens should also be invited to present comments about curriculum materials to local selection committees and adoption authorities. It would be appropriate for educational authorities to incorporate public hearings, involving citizens, within the plan for holding local selection hearings with publishers.

Recommendations for Increasing Public Participation

1. State and federal educational authorities should consider establishing, operating and maintaining a network of public display centres.
2. State and federal educational authorities should consider establishing procedures for permitting citizens to present comments to members of local selection committees at local selection hearings in conjunction with publishers' presentations.

9.5 Adoption and Dissemination of Information about Curriculum Materials

9.5.1 Overview of the Current Situation in Australia

Although state and territory education and accreditation agencies, together with a range of other sources, influence adoption decisions, adoption of curriculum materials is essentially the responsibility of individual schools. Evidence from the survey, reported in Chapter 5, indicated that adoption of curriculum materials in schools is generally the responsibility of individual curriculum coordinators, or various groups including curriculum coordinators, teachers, administrators, and resource specialists. Unfortunately, there is no research evidence available about the sources of information adoption groups or individuals consider in reaching their decisions, or the voting procedures they follow. Although the relationship between adoption decisions in Australian schools and the purchasing of materials is poorly understood, Chris Cooper Brown and Associates (1994) found that ordering of materials is undertaken through the school's administration by those responsible for adoption. The informality of adoption procedures used in Australian schools has not led to the implementation of effective procedures for disseminating information about adopted materials between school systems, or to publishers and distributors.

Considerable effort and expenditure was invested during the 1970s and 1980s in Australia on developing a nationwide electronic information service on resources held in school libraries, which has operated since 1984. In the 1980s, curriculum planners developed a database of information on curriculum materials, which was integrated into the information service on resources held in school libraries, and provided intermittently since 1987. Furthermore, the Queensland Department of Education commenced operating an independent electronic information service on curriculum resources in 1993. The evidence on the use of electronic information services as sources of information on curriculum materials, reported in Chapter 5, indicates that these systems are not widely used by school administrators, teachers and resource specialists. An explanation for this situation must be sought in the failure of educational authorities to integrate the use of electronic information services as an integral element of the selection and adoption process.

9.5.2 Strategies for Improving the Adoption and Dissemination of Information on Materials

The intent of adoption, which leads to formal contracts with publishers and distributors to supply materials to schools, is to authorise the use of selected materials. The action of adoption may also serve as a point for collecting information about curriculum materials for processing onto an information system, such as a printed catalogue, or an electronic database. Some important aspects of these issues are examined below.

9.5.2.1 Adoption Authority

Usually a constituted responsibility of state or local boards of education in the United States is the adoption of curriculum materials recommended by selection committees. In some statewide adoption states, such as California, the State Board replicates the selection procedure followed by the Curriculum Commission in a condensed form in reaching final adoption decisions. On receiving the Curriculum Commission's report, together with records, letters, evaluation sheets, the State Board hears testimony from interested groups and individuals. Following a public hearing, the State Board determines the content of the adoption list in its final form, and votes on its adoption. The action of adoption constitutes a formal contract with publishers and producers to supply adopted materials for the period of the adoption contract.

Similar procedures are followed by local school boards of education in adopting curriculum materials. In West Virginia, for instance, each county board of education has the option to adopt from the state-adopted list one or more textbooks, following selection by local committees. Following adoption, the county superintendent sends a complete list of materials adopted, preferably certified by the president of the county board of education, to the State Board.

9.5.2.2 Dissemination of Information on Materials

Generally, state education agencies in the United States have not incorporated full-scale information services as integral components of their selection procedures. Usually only a list of adopted materials is published and disseminated to school districts throughout the state, in the case of statewide adoption states, or to schools in the district, in the case of local-level adoption systems.

However, an information service on state-adopted materials is provided by the Florida Department of Education (n.d.) through the *Florida Catalog of State-Adopted Instructional Materials*. This catalogue is updated annually following the state adoption in April. Copies are then distributed free of charge to school districts, special schools, and other groups and individuals in Florida. The catalogue provides information about all materials on the state-adopted list, condensed and adapted from publishers' information, and evaluations by state instructional materials committees on such matters as the suitability for using materials in certain grades and for students of different abilities. The catalogue, which is organised according to subject areas, provides records listed alphabetically by publisher. Each record specifies nine fields: the publisher; the material's title; titles of components; information about the cost of supplying quantities of the materials to schools and supplementary materials; the teaching and learning approach applied in the material; the recommended grade levels; the suggested teaching time; information on consultant services provided by the publisher; and the dates of the adoption contract.

A further step in enhancing this service is the provision of this information by an electronic means. Such application involves consideration of possible information technologies, such as, online application by information retrieval or videotex, optical publishing products, such as CD-ROM, magnetic tapes, computer diskettes, and microforms. The information industry has made steady advances in the application of technologies applied to handling large quantities of information, replacing some outdated technologies but retaining others. For instance, online information retrieval systems, developed during the 1960s, were matched by the development of videotex during the 1980s. Both were largely supplanted in the 1990s by optical publishing disks, of which CD-ROM is the main one in widespread use today. Such factors relating to information technology need to be considered in developing a system for providing information efficiently to teachers on curriculum materials.

Usually, information on curriculum materials is provided in the form of records indexing bibliographic fields, together with accompanying abstracts of the indicative and informative types. There is a need, however, to apply the methods, techniques and practices of curriculum design analysis and curriculum alignment, discussed in the first section, to improve the quality of evaluative information on curriculum materials. An application of curriculum alignment is provided by the EPIE Institute's IIIR database, which permits the user to interact data between a set of six subfiles of information on curriculum materials of various media so that elements of different materials are aligned and matched to the user's instructional requirements. Furthermore, the interactive capacity of the information system providing the IIIR database allows local users to acquire a subset, and add to that subset information on locally developed curriculum resources, teaching strategies, and so forth.

9.5.3 Prospective Improvements

The evidence from the survey, reported in Chapter 5, suggests that curriculum materials selected by groups and individuals in Australian schools are usually not subjected to a process of formal adoption. Although authority for adoption is conferred by state and territory education agencies to school principals, principals are often not highly involved in the selection process. It was found that adoption of materials was delegated to curriculum coordinators, either individually or as part of a group, in a high proportion of Australian schools. This conclusion is supported by the findings of the research study commissioned by Curriculum Corporation, in which Chris Cooper-Brown and Associates (1994) found that the curriculum coordinator adopts and orders materials, or the curriculum coordinator as part of a group adopts materials and then places orders through the school's administrative structure.

It has been shown that authority for adoption in the United States is usually vested in formally established policy-making bodies, such as the state or local boards of education. The widespread decentralisation of decision-making authority to the local level in Australian educational systems, suggests that boards or executive officers of local education agencies should acquire responsibility for the adoption of curriculum materials. The award of authority to adopt curriculum materials to formally constituted policy-making bodies will strengthen the position of educational authorities to enter formal contracts with publishers and distributors to supply curriculum materials to schools on more favourable terms. The establishment of adoption authority in formally constituted policy-making bodies would also allow for regional and district offices, responsible for local selection hearings and public displays, to acquire the function of collecting information about adopted materials from selection committees. This information could then be sent by responsible regional and district offices to a central agency, such as Curriculum Corporation, for processing onto its electronic database.

Recommendations for Improving the Adoption and Dissemination of Information about Curriculum Materials

1. State and federal educational authorities should appoint local-level policy-making bodies as adoption authorities.
2. State and federal educational authorities should devise a means for adoption authorities to convey information on curriculum materials to a central clearinghouse for processing onto an electronic database.
3. State and federal educational authorities should consider consulting EPIE Institute on developing a database that applies the principles of curriculum alignment.

Although curriculum planners have been successful in designing an information system on curriculum materials, such information provided to teachers could be enhanced by the application of curriculum design analysis and the process of curriculum alignment. It is anticipated, however, that the infrastructure for supporting the information system would need to be improved by incorporating recommendations reported by Watt (1989). Because of the low information grasp by Australian educators of knowledge and skills about these innovative methods, techniques and practices, these recommendations call for collaboration between a national curriculum agency in Australia and EPIE Institute in the activities of research, invention, design, construction, and assembly of a database applying the principles of curriculum alignment, similar to EPIE Institute's IIIR database. Implementation and maintenance of the database would need to be supported by activities for disseminating awareness, demonstrating its operations, training a network of materials' analysts, trialling, installing and instutionalising its use.

It has been shown that the limited use of Curriculum Corporation's information service on curriculum materials has resulted from the failure to integrate its use into the decision-making process for selecting curriculum materials. It is anticipated that implementation of a procedure for local adoption authorities to provide information on adopted materials to the central agency, responsible for information provision, would increase the utilisation of a nationally provided information service by integrating its use into the selection process.

9.6 Implementation of Materials in Classrooms

9.6.1 Overview of the Current Situation in Australia

The findings of studies on the implementation of curriculum materials in classrooms of Australian schools, which are largely confined to a few case studies conducted to evaluate SEMP, do not show that teachers use a discernible pattern for implementation. Reporting on the implementation of SEMP components by trial teachers, Madin (1980) found they selected items from different components to fit their own teaching programs. Reporting on one teacher's perceptions about using SEMP materials with two class groups, Elliott (1980) found that implementation was inhibited by the inappropriate readability level and the lack of controversial subject matter in the materials. In describing the dissemination and use of curriculum materials developed for SEMP, Marsh (1983a) presented a case study of their implementation by four teachers finding that the subjects lacked confidence about implementation of the materials because of unfamiliarity, lacked easy access to the materials because of their prohibitive cost, used syllabuses which did not incorporate SEMP topics, and each of the four subjects had different concerns about implementing and using the materials in the classroom.

Several investigators, however, have recommended that teachers should employ particular strategies for implementing curriculum materials. Northfield (1983) believed that these strategies should satisfy four criteria: focus on the individual teacher; gain commitment from teachers; provide inservice training, which incorporates opportunities for interaction with colleagues; and provide long-term support. Mitchell and Traill (1986) suggested that curriculum developers should use existing mechanisms available to state educational systems for implementing materials in schools, such as inservice training programs, information bulletins, and school visits. Marsh (1987) suggested that a group of teachers implementing locally developed materials should coordinate the time schedule, and sequence among themselves, communicate their plans to other teachers, and inform the principal in detail about the implementation. A group of teachers should use a variety of techniques to evaluate the implementation in terms of student performance, teaching and methods, and the ways the materials were used. Marsh recommended that developers and publishers of externally developed curriculum materials should disseminate information about the materials, and conduct inservice training activities to familiarise teachers about new materials. The effectiveness of implementation could be assessed by using specialised instruments, such as the Concerns Based Adoption Model. Materials, which are relatively unstructured and non-prescriptive in terms of guidance for implementation, may require adaptation for use in particular classrooms.

9.6.2 Strategies for Improving the Implementation of Materials in Classrooms

Experts have recently questioned whether the strategies of attempting to improve the quality of curriculum materials by influencing publishers to change the content of materials or focusing on the selection process by adopting the best materials are alone sufficient to address issues relating to the use of curriculum materials in classrooms. For instance, Tyson-Bernstein (1988) believed that a well-designed inservice training program should be employed to implement each new material. She stated that such programs should be led by the publisher's representative and teachers, who have previously used the material. Furthermore, school administrators should provide opportunities for teachers to share their experiences about a material openly, and find ways to compensate for its shortcomings.

Educational Products Information Exchange Institute (1986) promoted the view that local school districts should implement utilisation policies based on the assumptions that most textbooks are inadequate to promote positive teaching and learning, most supplementary materials are similarly flawed, and teachers require support, training, monitoring and communication with colleagues on matching curriculum materials to the capabilities of individual students. Although selection procedures should be included as an initial phase, utilisation policies should then require publishers to provide inservice training on the technical aspects of a curriculum material and its management system. Training should involve an overview of the material, a demonstration of its use with students, and question-and-answer feedback sessions after the material has been used by teachers. The training process should employ a planned model, such as espoused by Bruce Joyce, Martha Weil and Beverly Showers. At the same time, the comprehensibility, readability and the content appropriateness of the material should be considered independently from recommendations by publishers.

Muther (1983) stated that the third stage in her selection procedure, that of implementing a new material effectively, represents the most critical phase for enlisting teachers who have not been involved in the selection process to accept and use the material. Muther stated that implementation should commence after needs assessment has been undertaken in the first stage, and should involve the Needs Assessment and Implementation/Training/Modifying subcommittees working closely together. The implementation process begins by reviewing identified needs to bridge the gap between actual and ideal situations, and identifying solutions to fix shortcomings in all materials evaluated during the selection process. The next step is to determine a realistic and achievable process for training teachers, participants, teacher librarians, aides, and parents to implement the material. Then ways publishers can assist with implementation need to be determined by specifying their responsibilities in service contracts. Inservice training, which should be conducted in each school within the district, needs to be directed to grade levels and involve monitors.

Muther (1987c) recommended that a simple monitoring and modifying system should be established in each school to implement adopted materials. This system involves the school principal monitoring student outcomes using test results or other measures, whilst a teacher monitor, supervised by a subject coordinator, monitors the implementation of each material. Chosen because they are respected by other teachers, monitors have the tasks of listening to and recording teachers' comments about a new material. The monitor's task is to provide teachers with answers to their problems about implementing a material. An intractable problem with a material may require a monitor to consult monitors in other schools within the district, district curriculum or subject specialists, publishers' consultants, or teachers in other districts during in-depth piloting of the particular material, to find a solution. Muther contended that this system facilitates implementation of a new material by focusing attention on potentially serious problems with materials, and responding to teachers' difficulties with answers. If a new material is installed without the assistance of such a system, problems accumulate to the extent that the material is eventually rejected and consigned to storage.

9.6.3 Prospective Improvements

Most researchers and commentators agree that inservice training should be provided to teachers involved in implementing new curriculum materials. The training process should employ a planned model by incorporating five elements: presentation of theory about the approach advocated in the material; demonstration of the material by modelling the approach; practice involving the use of the material in simulated or classroom settings; structured and open-ended feedback about performance; and coaching for application involving transfer of skills and strategies to the classroom (Joyce and Showers, 1980). A procedure for monitoring the implementation of a new material, as suggested by Muther, should be introduced.

The effectiveness of the implementation process should be evaluated by applying the Concerns Based Adoption Model through the administration of appropriate instruments (Hall et al., 1973). This model recognises that teachers, involved in the implementation of a curricular innovation, proceed through seven stages of concern: awareness of the innovation; informational interest in the innovation; personal demands and adequacy about the implementation; management of processes and tasks of implementation; consequences of impact on students; collaboration with others regarding use of the innovation; and refocusing on universal benefits, including replacement of the innovation by a better alternative (Hall et al., 1977). A second dimension of the Concerns Based Adoption Model, which provides data about teachers' use of the innovation, is categorised into eight levels: non-use; orientation; preparation for first use; mechanical use; routing in which use is stabilised; refinement of use patterns to increase impact; integration of own efforts with colleagues' activities to achieve a collective impact; and renewal in which the quality of use is evaluated and modified to increase impact. Loucks et al. (1975), who developed an instrument to interview teachers involved in implementing curricular innovations, found from several large-scale studies that the majority of teachers remained at the routing level with few achieving integration or renewal, whilst a small proportion remained at the levels of non-use, orientation, or preparation.

Recommendations for Improving the Implementation of New Curriculum Materials

1. State and federal educational authorities should consult publishers and producers of curriculum materials about developing and providing inservice activities for training teachers to implement new curriculum materials.

2. State and federal educational authorities should recommend that schools employ monitorial systems to support implementation of new curriculum materials.

3. State and federal educational authorities should contract ACER to develop appropriate instruments for local-level adoption authorities to evaluate the implementation of new curriculum materials.

APPENDIX A

TABLES REFERRING TO TARGET POPULATIONS AND SAMPLES FOR THE SURVEY OF PRACTICES USED TO SELECT CURRICULUM MATERIALS IN AUSTRALIAN SCHOOLS

TABLE 1

PILOT STUDY

SAMPLE GROUPS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN TASMANIA

(Sample no. = 47)

Statistical Division	Public			Catholic			Independent			Total
	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	
Greater Hobart	8	6	1	1	0	2	0	0	2	20
Southern	1	0	1	0	0	0	0	0	0	2
Northern	5	4	1	1	1	0	0	0	1	13
Mersey-Lyell	5	4	1	1	0	0	0	0	1	12
Total	19	14	4	3	1	2	0	0	4	47

TABLE 2.1

MAIN STUDY

NUMBER OF PUPILS BY SCHOOL SYSTEM

1992

State	Public	Catholic	Independent	Total
NSW	756,852	210,097	76,279	1,050,228
VIC	533,909	175,715	77,998	787,622
QLD	401,122	88,815	47,022	536,959
SA	187,556	36,066	25,180	248,802
WA	221,034	48,547	24,005	293,586
TAS	65,713	12,880	7,696	86,289
NT	26,803	4,639	2,129	33,571
ACT	41,094	15,893	4,922	61,909
Total	2,234,083	599,652	265,231	3,098,966

Source: Australian Bureau of Statistics

TABLE 2.2

MAIN STUDY

SAMPLE OF SCHOOLS BY SYSTEM

(Sample no. = 200)

Public	Catholic	Independent	Total
49	14	5	68
34	11	5	50
26	6	3	35
12	2	2	16
14	3	2	19
4	1	1	6
2	0	0	2
3	1	0	4
144	38	18	200

TABLE 3.1

MAIN STUDY

PUPIL POPULATION DISTRIBUTIONS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN NEW SOUTH WALES

Statistical Division	Public			Catholic			Independent			Total
	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Pop.
Sydney	248,108	175,287	0	67,104	51,875	17,255	6.091	4.616	49,255	619,589
Hunter	46,118	30,210	718	8,652	5,945	0	775	362	3,144	95,924
Illawarra	29,772	19,469	0	6,367	5,176	0	584	627	1,595	63,590
Richmond-Tweed	15,746	11,386	1,213	3,827	2,533	0	699	950	508	36,862
Mid-North Coast	20,275	14,527	900	4,434	3,097	0	199	0	1,622	45,054
Northern	14,276	9,746	3,524	3,251	1,722	704	174	336	1,618	35,351
North Western	9,688	6,701	3,025	2,697	689	874	133	0	699	24,506
Central West	13,560	8,875	2,889	3,548	2,730	1,354	0	278	1,636	34,870
South Eastern	13,675	9,320	639	2,888	1,250	702	42	0	0	28,516
Murrumbidgee	11,788	8,558	2,160	3,870	2,455	893	298	112	0	30,134
Murray	8,254	5,584	677	2,295	780	0	138	282	780	18,790
Far West	2,621	2,021	426	54	0	373	0	0	0	5,495
Total	433,881	301,684	16,171	108,987	78,252	22,155	9,133	7,561	60,857	1,038,681
Systemic Total		751,736			209,394			77,551		

Sources: New South Wales Department of School Education; Catholic Education Commission of New South Wales; Commonwealth Department of Employment, Education and Training

TABLE 3.2

MAIN STUDY

SAMPLE GROUPS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN NEW SOUTH WALES

(Sample no. = 68)

Statistical Division	Public			Catholic			Independent			Total
	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	
Sydney	16	11	0	5	4	1	1	1	3	42
Hunter	3	2	0	1	1	0	0	0	0	7
Illawarra	2	1	0	1	1	0	0	0	0	5
Richmond-Tweed	1	1	0	0	0	0	0	0	0	2

TABLE 3.2
(continued)

Statistical Division	Public			Catholic			Independent			Total
	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	
Mid-North Coast	1	1	0	0	0	0	0	0	0	2
Northern	1	1	0	0	0	0	0	0	0	2
North Western	1	0	0	0	0	0	0	0	0	1
Central West	1	1	0	0	0	0	0	0	0	2
South Eastern	1	1	0	0	0	0	0	0	0	2
Murrumbidgee	1	1	0	0	0	0	0	0	0	2
Murray	1	0	0	0	0	0	0	0	0	1
Far West	0	0	0	0	0	0	0	0	0	0
Total	29	20	0	7	6	1	1	1	3	68

TABLE 4.1

MAIN STUDY

PUPIL POPULATION DISTRIBUTIONS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN VICTORIA

Statistical Division	Public			Catholic			Independent			Total
	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Pop.
Melbourne	195,413	136,523	650	72,515	55,794	0	4,143	4,469	56,075	525,582
Barwon	17,099	13,087	606	4,278	4,362	0	335	972	2,971	43,710
Western District	7,370	4,861	0	2,480	1,740	0	354	199	634	17,638
Central Highlands	12,019	7,239	0	3,426	3,078	0	97	0	1,672	27,531
Wimmera	4,288	3,912	130	828	190	0	328	0	0	9,676
Loddon Campaspe	15,696	11,031	509	3,961	3,118	0	123	799	852	36,089
Mallee	6,592	5,636	252	1,744	804	0	251	0	111	15,390
Goulburn	14,066	9,422	0	3,333	2,033	0	92	121	292	29,359
Ovens-Murray	7,475	6,103	423	2,348	1,865	0	75	0	42	18,331
East Gippsland	6,325	3,152	300	1,494	1,819	0	0	0	688	13,778
Gippsland	14,757	10,554	0	3,256	2,255	0	87	545	575	32,029
Total	301,100	211,520	2,870	99,663	77,058	0	5,885	7,105	63,912	769,113
Systemic Total		515,490			176,721			76,902		

Sources: Victoria Directorate of School Education; Catholic Education Commission of Victoria; Commonwealth Department of Employment, Education and Training

TABLE 4.2

MAIN STUDY

SAMPLE GROUPS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN VICTORIA

(Sample no. = 50)

Statistical Division	Public			Catholic			Independent			Total
	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	
Melbourne	13	9	0	5	4	0	0	1	4	36
Barwon	1	1	0	1	1	0	0	0	0	4
Western District	1	0	0	0	0	0	0	0	0	1
Central Highlands	1	1	0	0	0	0	0	0	0	2
Wimmera	0	0	0	0	0	0	0	0	0	0
Loddon Campaspe	1	1	0	0	0	0	0	0	0	2
Mallee	0	0	0	0	0	0	0	0	0	0
Goulbum	1	1	0	0	0	0	0	0	0	2
Ovens-Murray	1	0	0	0	0	0	0	0	0	1
East Gippsland	0	0	0	0	0	0	0	0	0	0
Gippsland	1	1	0	0	0	0	0	0	0	2
Total	20	14	0	6	5	0	0	1	4	50

TABLE 5.1

MAIN STUDY

PUPIL POPULATION DISTRIBUTIONS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN QUEENSLAND

Statistical Division	Public			Catholic			Independent			Total
	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	
Brisbane	115,244	47,557	0	24,241	14,460	8,179	2,652	6,491	16,983	235,807
Moreton	50,593	23,801	0	5,512	2,705	0	1,177	1,155	9,558	94,501
Wide Bay-Burnett	23,938	11,333	0	2,039	1,290	0	351	0	722	39,673
Darling Downs	20,542	8,153	0	4,300	2,902	890	745	1,478	1,891	40,901
South West	3,344	490	0	596	0	289	0	0	0	4,719
Fitzroy	19,774	8,495	0	3,059	2,648	0	256	34	1,417	35,683
Central West	1,522	194	0	194	0	158	0	0	0	2,068

TABLE 5.1
(continued)

Statistical Division	Public			Catholic			Independent			Total
	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	
Mackay	12,202	6,188	0	1,571	1,012	752	0	0	332	22,057
Northern	17,788	9,084	0	3,102	2,556	856	195	0	2,177	35,758
Far North	20,248	8,892	0	4,119	2,260	0	28	80	1,369	36,996
North West	2,484	1,335	0	631	128	0	91	0	0	4,669
Total	287,679	125,522	0	49,364	29,961	11,124	5,495	9,238	34,449	552,832
Systemic Total	413,201			90,449			49,182			

Sources: Queensland Department of Education; Queensland Catholic Education Commission; Association of Independent Schools of Queensland; Commonwealth Department of Employment, Education and Training

TABLE 5.2

MAIN STUDY

SAMPLE GROUPS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN QUEENSLAND

(Sample no. = 35)

Statistical Division	Public			Catholic			Independent			Total
	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	
Brisbane	7	3	0	2	1	1	0	1	1	16
Moreton	3	1	0	1	0	0	0	0	1	6
Wide Bay-Burnett	2	1	0	0	0	0	0	0	0	3
Darling Downs	1	1	0	1	0	0	0	0	0	3
South West	0	0	0	0	0	0	0	0	0	0
Fitzroy	1	1	0	0	0	0	0	0	0	2
Central West	0	0	0	0	0	0	0	0	0	0
Mackay	1	0	0	0	0	0	0	0	0	1
Northern	1	1	0	0	0	0	0	0	0	2
Far North	1	1	0	0	0	0	0	0	0	2
North West	0	0	0	0	0	0	0	0	0	0
Total	17	9	0	4	1	1	0	1	2	35

TABLE 6.1

MAIN STUDY

PUPIL POPULATION DISTRIBUTIONS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN SOUTH AUSTRALIA

Statistical Division	Public			Catholic			Independent			Total
	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Pop.
Adelaide	77,367	43,807	0	18,058	3,686	8,750	4,567	1,863	15,534	173,632
Outer Adelaide	7,358	3,281	2,096	190	0	0	1,796	880	322	15,923
Yorke & Lower North	3,063	1,570	2,732	318	0	0	176	0	0	7,859
Murray Lands	5,858	3,771	1,671	658	0	0	533	0	51	12,542
South East	6,156	3,228	1,727	0	0	656	186	0	0	11,953
Eyre	1,836	679	3,372	723	360	0	0	0	0	6,970
Northern	7,056	4,025	2,904	1,022	352	1,371	138	0	0	16,868
Total	108,694	60,361	14,502	20,969	4,398	10,777	7,396	2,743	15,907	245,747
Systemic Total		183,557			36,144			26,046		

Sources: South Australia Department of Education, Employment and Training; South Australian Commission for Catholic Schools; South Australian Independent Schools Board; Commonwealth Department of Employment, Education and Training

TABLE 6.2

MAIN STUDY

SAMPLE GROUPS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN SOUTH AUSTRALIA

(Sample no. = 16)

Statistical Division	Public			Catholic			Independent			Total
	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	
Adelaide	5	3	0	1	0	1	1	0	1	12
Outer Adelaide	1	0	0	0	0	0	0	0	0	1
Yorke & Lower North	0	0	0	0	0	0	0	0	0	0
Murray Lands	1	0	0	0	0	0	0	0	0	1
South East	1	0	0	0	0	0	0	0	0	1
Eyre	0	0	0	0	0	0	0	0	0	0
Northern	1	0	0	0	0	0	0	0	0	1
Total	9	3	0	1	0	1	1	0	1	16

TABLE 7.1

MAIN STUDY

PUPIL POPULATION DISTRIBUTIONS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN WESTERN AUSTRALIA

Statistical Division	Public			Catholic			Independent			Total
	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Pop.
Perth	112,962	57,734	1,496	22,021	13,612	5,038	2,775	651	17,525	233,814
South West	13,739	7,234	1,908	2,274	777	323	164	0	917	27,336
Lower Great Southern	4,695	2,429	1,315	382	0	728	79	0	413	10,041
Upper Great Southern	2,247	756	2,210	0	0	0	0	0	0	5,213
Midlands	4,177	1,468	3,877	289	71	479	0	0	42	10,403
South Eastern	5,895	2,123	1,783	652	336	0	36	18	101	10,944
Central	5,363	2,123	2,475	1,159	782	361	0	0	199	12,462
Pilbara	4,882	2,048	1,726	515	299	304	0	0	0	9,774
Kimberley	3,054	417	2,435	712	122	567	76	0	0	7,383
Total	157,014	76,332	19,225	28,004	15,999	7,800	3,130	669	19,197	327,370
Systemic Total		252,571			51,803			22,996		

Sources: Western Australia Ministry of Education, Catholic Education Office of Western Australia

TABLE 7.2

MAIN STUDY

SAMPLE GROUPS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN WESTERN AUSTRALIA

(Sample no. = 19)

Statistical Division	Public			Catholic			Independent			Total
	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	
Perth	6	3	0	2	1	0	0	0	1	14
South West	1	1	0	0	0	0	0	0	0	2
Lower Great Southern	0	0	0	0	0	0	0	0	0	0
Upper Great Southern	0	0	0	0	0	0	0	0	0	0
Midlands	0	0	0	0	0	0	0	0	0	0
South Eastern	1	0	0	0	0	0	0	0	0	1
Central	1	0	0	0	0	0	0	0	0	1
Pilbara	1	0	0	0	0	0	0	0	0	1
Kimberley	0	0	0	0	0	0	0	0	0	0

TABLE 7.2
(continued)

Statistical Division	Public			Catholic			Independent			Total
	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	
Total	10	4	0	2	1	0	0	0	1	19

TABLE 8.1

MAIN STUDY

PUPIL POPULATION DISTRIBUTIONS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN TASMANIA

Statistical Division	Public			Catholic			Independent			Total
	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Pop.
Greater Hobart	14,806	11,351	1,139	2,311	911	3,005	253	57	4,460	38,293
Southern	1,672	352	4,651	367	0	331	0	0	0	7,373
Northern	9,581	7,539	2,144	1,404	976	252	120	0	2,124	24,140
Mersey-Lyell	9,553	7,086	1,731	1,928	604	789	144	30	749	22,614
Total	35,612	26,328	9,665	6,010	2,491	4,377	517	87	7,333	92,420
Systemic Total		71,605			12,878			7,937		

Sources: Tasmania Department of Education and The Arts; Tasmanian Catholic Education Commission; Association of Independent Schools of Tasmania, Commonwealth Department of Employment, Education and Training

TABLE 8.2

MAIN STUDY

SAMPLE GROUPS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN TASMANIA

(Sample no. = 6)

Statistical Division	Public			Catholic			Independent			Total
	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	
Greater Hobart	1	1	0	0	0	1	0	0	1	4
Southern	0	0	0	0	0	0	0	0	0	0
Northern	1	0	0	0	0	0	0	0	0	1
Mersey-Lyell	1	0	0	0	0	0	0	0	0	1
Total	3	1	0	0	0	1	0	0	1	6

TABLE 9.1

MAIN STUDY

PUPIL POPULATION DISTRIBUTIONS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN THE NORTHERN TERRITORY

Statistical Division	Public			Catholic			Independent			Total
	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Pop.
Darwin	8,554	4,554	0	1,689	898	0	331	354	335	16,715
Balance	6,469	2,023	7,514	715	243	1,031	193	0	451	18,639
Total	15,023	6,577	7,514	2,404	1,141	1,031	524	354	786	35,354
Systemic Total		29,114			4,576			1,664		

Source: Northern Territory Department of Education

TABLE 9.2

MAIN STUDY

SAMPLE GROUPS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN THE NORTHERN TERRITORY

(Sample no. = 2)

Statistical Division	Public			Catholic			Independent			Total
	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	
Darwin	1	0	0	0	0	0	0	0	0	1
Balance	0	0	1	0	0	0	0	0	0	1
Total	1	0	1	0	0	0	0	0	0	2

TABLE 10.1

MAIN STUDY

PUPIL POPULATION DISTRIBUTIONS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN THE AUSTRALIAN CAPITAL TERRITORY

Statistical Division	Public			Catholic			Independent			Total
	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Pop.
Canberra	25,691	17,728	930	7,936	4,970	3,048	270	867	3,785	65,225
Balance	0	0	0	0	0	0	0	0	0	0
Total	25,691	17,728	930	7,936	4,970	3,048	270	867	3,785	65,225

TABLE 10.1
(continued)

Statistical Division	Public			Catholic			Independent			Total
	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Prim. Pop.	Sec. Pop.	Comb. Pop.	Pop.
Systemic Total		44,349			15,954			4,922		

Source: Australian Capital Territory Department of Education and Training

TABLE 10.2

MAIN STUDY

SAMPLE GROUPS BY SYSTEMIC CATEGORIES FOR SCHOOLS IN THE AUSTRALIAN CAPITAL TERRITORY

(Sample no. = 4)

Statistical Division	Public			Catholic			Independent			Total
	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	Prim.	Sec.	Comb.	
Canberra	2	1	0	1	0	0	0	0	0	4
Balance	0	0	0	0	0	0	0	0	0	0
Total	2	1	0	1	0	0	0	0	0	4

APPENDIX B

SURVEY OF THE USE MADE BY AUSTRALIAN SCHOOLS OF CURRICULUM MATERIALS AND INFORMATION SERVICES

Questionnaire

Introduction

The purpose of this questionnaire is to identify teachers' use of curriculum materials, their sources of information about curriculum materials, their practices in selecting curriculum materials, and their use of information services on curriculum materials. The survey involves a random sample of schools drawn from all Australian states and territories.

The questionnaire is divided into seven parts:

Part 1: Background Information (items 1-9);

Part 2: The Use of Curriculum Materials (items 10-21);

Part 3: The Sources of Curriculum Information (items 22-34);

Part 4: Policies and Practices in Selecting Curriculum Materials (items 35-47);

Part 5: The Use and Availability of Information Systems (items 48-55);

Part 6: Factors Affecting the Potential Use of a New Curriculum Information Service (items 56-66); and

Part 7: The Presentation of Curriculum Information in Information Systems (items 67-71).

Responding to the Questionnaire

Most items can be answered by ticking a box. Please use the space at the end of the questionnaire, if additional space is required to respond to open-ended items. Please attach all documents to the completed questionnaire.

Your name is not required, but you are requested to identify your school to assist data collection procedures. All information obtained from this survey will be treated confidentially, and presented in the project report in tabulated form only, without identifying your school. In participating in the survey, you understand that research data gathered for the study may be published, but that you may withdraw at any time from the survey. If you have any queries concerning the questionnaire, please call (002) 25 1335. I will be available most mornings and evenings local time.

I would appreciate if you can complete and mail the questionnaire within two weeks of receiving it. Completing the questionnaire should take you about 30 minutes. I hope you will be able to make this time available as your opinions are valued.

Returning the Questionnaire

Please mail completed or uncompleted questionnaires to Michael G. Watt, 316 Churchill Avenue, Sandy Bay, Tasmania 7005, Australia. You are requested to attach a note identifying your school, if returning an uncompleted questionnaire. This will avoid follow-up correspondence being sent to your school.

Thank you for your help.

Part 1: Background Information

Please tick the appropriate box.

1. What is your sex?

A. female ☐

B. male ☐

2. To which of the following age groups do you belong?

A. 29 years and younger ☐

B. 30-39 years ☐

C. 40-49 years ☐

D. 50-59 years ☐

E. 60 years and older ☐

3. What is your current role within the school?

A. principal ☐

B. vice principal or assistant principal ☐

C. senior teacher ☐

D. classroom teacher ☐

E. teacher-librarian ☐

F. resource teacher ☐

G. other (please specify) ☐

....

4. Approximately, how many full-time teachers are in your school?

A. less than 10 ☐

B. 10 to 19 ☐

C. 20 to 29 ☐

D. 30 to 39 ☐

E. more than 40 ☐

5. Approximately, how many pupils are in your school?

A. less than 100 ☐

B. 100 to 299 ☐

C. 300 to 499 ☐

D. 500 to 699 ☐

E. 700 to 899 ☐

F. more than 900 ☐

6. In which type of school do you work?

A. kindergarten or preschool ☐

B. primary school ☐

C. high school ☐

D. matriculation or senior secondary college ☐

E. school with combined primary and secondary levels ☐

F. special school ☐

G. other ☐
(please specify)

....

7. To which educational sector does your school belong?

A. state or public ☐

B. Catholic ☐

C. independent non-Catholic ☐

D. other ☐
(please specify)

....

8. What is the main type of community from which your school enrolls its pupils?

A. large city of more than 500,000 people ☐

B. medium city of 100,000 to 500,000 people ☐

C. small city of 10, 000 to 100,000 people ☐

D. large country town of 1,000 to 10,000 people ☐

E. small country town of less than 1,000 people ☐

F. other
(please specify) ☐

....

9. In which state or territory is your school located?

A. New South Wales ☐
B. Victoria ☐
C. Queensland ☐
D. South Australia ☐
E. Western Australia ☐
F. Tasmania ☐
G. Northern Territory ☐
H. Australian Capital Territory ☐

Part 2: The Use of Curriculum Materials

Part 2 examines the types of curriculum materials you use and how often you use them in your classroom or library.

Part 2 includes a sub-set of questions consisting of items numbered 10-20. To the right of each item are five boxes, which are labelled at the top. Please read each item and then tick the box that best fits your opinion for that item.

Do you use with all your class groups as part of teaching time over a year-long period ...	for more than 75% of teaching time	for 50% to 75% of teaching time	for 25% to 50% of teaching time	for less than 25% of teaching time	no, never
10. ... commercially available textbooks?	☐	☐	☐	☐	☐
11. ... supplemental reading materials, such as novels?	☐	☐	☐	☐	☐
12. ... print-based kit materials?	☐	☐	☐	☐	☐
13. ... non-commercial print materials published by educational agencies?	☐	☐	☐	☐	☐
14. ... teacher-developed materials?	☐	☐	☐	☐	☐

	for more than 75% of teaching time	for 50% to 75% of teaching time	for 25% to 50% of teaching time	for less than 25% of teaching time	no, never
15. ... slides, filmstrips, films, and television programs?	☐	☐	☐	☐	☐
16. ... audiocassettes, gramophone records, and compact disks?	☐	☐	☐	☐	☐
17. ... videos?	☐	☐	☐	☐	☐
18. ... multi-media materials (that combine print, audio-visual, video, and/or computer-based media)?	☐	☐	☐	☐	☐
19. ... computer software programs?	☐	☐	☐	☐	☐
20. ... other materials? (please specify)	☐	☐	☐	☐	☐

....

21. What factors can you specify to explain why you use certain curriculum materials in preference to others? Please list them.

....

....

....

....

Part 3: The Sources of Curriculum Information

Part 3 examines the processes you use for seeking information about the types of curriculum materials listed in Part 2.

Part 3 includes a sub-set of questions consisting of items numbered 22-33. To the right of each item are four boxes, which are labelled at the top. Please read each item and then tick the box that best fits your opinion for that item.

	yes, always the way	yes, most usual way	yes, sometimes the way	no, never the way
Do you find out about new curriculum materials initially from ...				
22. ... the subject head, principal, or staff meeting announcements?	☐	☐	☐	☐

	yes, always the way	yes, most usual way	yes, sometimes the way	no, never the way
23. ... other teachers?	☐	☐	☐	☐
24. ... the teacher librarian?	☐	☐	☐	☐
25. ... outside curriculum consultants?	☐	☐	☐	☐
26. ... staffroom noticeboards, or official publications of education departments?	☐	☐	☐	☐
27. ... printed reviews and evaluations in professional journals and books?	☐	☐	☐	☐
28. ... mail order catalogues?	☐	☐	☐	☐
29. ... publishers' sales people or by visiting commercial suppliers?	☐	☐	☐	☐
30. ... visiting resource centres and libraries?	☐	☐	☐	☐
31. ... visiting other schools, regional or district offices, universities or colleges?	☐	☐	☐	☐
32. ... electronic databases?	☐	☐	☐	☐
33. ... some other way(s)? (please specify)	☐	☐	☐	☐

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34. What factors can you specify to explain why you choose certain sources of curriculum information in preference to others? Please list them.

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Part 4: Policies and Procedures for Selecting Curriculum Materials

Part 4 examines the policies and procedures used at present in your school to select curriculum materials, and how you believe these policies and procedures could be improved.

Part 4 includes a sub-set of questions comprising items numbered 35-42. To the right of each item are four boxes, which are labelled at the top. Please read each item and then tick the box that best fits your opinion for that item.

	yes, always happens	yes, often happens	yes, sometimes happens	no, never happens
Does the decision-making process for selecting curriculum materials for your classroom or library involve ...				
35. ... an administrator or committee from outside your school making suggestions or presenting a list from which to choose?	☐	☐	☐	☐
36. ... the subject head or principal making suggestions or presenting a list from which to choose?	☐	☐	☐	☐
37. ... a school committee, made up of staff members, making suggestions or presenting a list from which to choose?	☐	☐	☐	☐
38. ... committees of teachers from each subject department making suggestions or presenting a list from which to choose?	☐	☐	☐	☐
39. ... resource materials specialists, such as the teacher-librarian, making suggestions or presenting a list from which to chose?	☐	☐	☐	☐
40. ... individual teachers making selections?	☐	☐	☐	☐
41. ... publishers' representatives explaining their materials?	☐	☐	☐	☐
42. ... special interest groups, such as parents or religious organisations, making their views known?	☐	☐	☐	☐

43. What is the main policy and/or procedure used in your school to select curriculum materials? Please describe it, or append a copy of a document describing it.

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Part 4 also asks you to indicate ways the decision-making process for selecting curriculum materials could be improved. Assume that these new procedures would be implemented as a result of the adoption of a national curriculum framework for all Australian schools, or national curriculum standards to which state or local curricula would need to comply.

Part 4 includes a sub-set of questions consisting of items numbered 44-47. To the right of each item are five boxes, which are labelled at the top. Please read each item, and then tick the box that best fits your opinion for that item.

	yes, definitely	yes, probably	uncertain	no, probably not	no, definitely not
To what extent would the selection of curriculum materials be improved for your school if ...					
44. ... a nationwide committee selected and recommended materials to committees in each school, which either selected from national recommendations or petitioned the nationwide committee to use alternative materials?	☐	☐	☐	☐	☐
45. ... state or regional committees selected and recommended materials to committees in each school, which then selected from the state or regional recommendations for use in their classrooms or petitioned the state or regional committees to use alternative materials?	☐	☐	☐	☐	☐
46. ... committees in each school selected materials for use in their classrooms?	☐	☐	☐	☐	☐
47. ... some other way(s)? (please specify)	☐	☐	☐	☐	☐

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Part 5: The Use and Availability of Information Systems

Part 5 examines the use you make of information systems available in Australia on databases offered by electronic and CD-ROM vendors, or by printed format, when searching for information about curriculum materials.

Part 5 includes a sub-set of questions consisting of items numbered 48-49. To the right of each item are five boxes, which are labelled at the top. Please read each item and then tick the boxes that best fit your use of these databases. You can tick more than one box for each item in this sub-set.

	yes, directly on-line	yes, directly on CD-ROM	yes, with help of an information professional	yes, by printed format	no, never
Do you use, or have you used, ...					
48. ... the Curriculum Corporation's (SCIS) database?	☐	☐	☐		☐
49. ... other database(s)? (please specify)	☐	☐	☐	☐	☐

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Part 5 also asks you to indicate some information that may help to explain why you have, or have not, used these information systems. You are asked to identify the types of facilities available to you in your local community for accessing information systems.

Part 5 includes a sub-set of questions consisting of items numbered 50-54. To the right of each item are four boxes, which are labelled at the top. Please read each item and then tick the boxes that best fit the facilities available to you. You can tick more than one box for each item in this sub-set.

	yes, in your school library	yes, in a public library or higher education institution	yes, in your home	no, not available
Do you have access to ...				
50. ... facilities capable of accessing on-line information retrieval systems, such as services provided by the Australian Information Network (AUSINET), DIALOG Information Services and BRS Information Technologies?	☐	☐	☐	☐
51. ...facilities capable of accessing videotex, such as Telecom Australia's Discovery?	☐	☐	☐	☐
52. ... facilities capable of accessing CD-ROMs?	☐	☐	☐	☐

	yes, in your school library	yes, in a public library or higher education institution	yes, in your home	no, not available
53. ... micrographics equipment to view microforms, such as microfilms and microfiche?	☐	☐	☐	☐
54. ... a library collection?	☐	☐	☐	☐

55. What other factors can you specify to explain why you do or do not use electronic databases to identify curriculum information? Please list them.

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Part 6: Factors Affecting the Potential Use of a New Curriculum Information Service

Part 6 examines the potential use you would make of a new curriculum information service, if it becomes available in Australia. Assume that this new curriculum information service would be planned, structured and implemented by a national education agency in Australia.

Part 6 includes a sub-set of questions consisting of items numbered 56-66. To the right of each item are five boxes, which are labelled at the top. Please read each item, and then tick the box that best fits your opinion for that item.

	yes, definitely	yes, probably	uncertain	no, probably not	no, definitely not
To what extent will your use of a new curriculum information system most likely depend on ...					
56. ... its information being relevant to the teaching program in your school?	☐	☐	☐	☐	☐
57. ... its information being current?	☐	☐	☐	☐	☐
58. ... its ease of use, such as different modes for beginners and experts, when searching?	☐	☐	☐	☐	☐
59. ... its availability of documentation for users, such as a thesaurus, user aids and technical manuals?	☐	☐	☐	☐	☐

	yes, definitely	yes, probably	uncertain	no, probably not	no, definitely not
60. ... its provision of an offline search service?	☐	☐	☐	☐	☐
61. ... its provision of a telephone helpline service?	☐	☐	☐	☐	☐
62. ... its provision on-line?	☐	☐	☐	☐	☐
63. ... its provision on CD-ROM?	☐	☐	☐	☐	☐
64. ... its provision in a printed format?	☐	☐	☐	☐	☐
65. ... its provision of a delivery service for source documents?	☐	☐	☐	☐	☐
66. ... some other reason(s)? (please specify)	☐	☐	☐	☐	☐

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Part 7: The Presentation of Curriculum Information in Information Systems

Part 7 presents four alternative approaches for presenting information on curriculum materials in databases of information systems. Several of these approaches have been developed as attempts to assist teachers' decision-making, when selecting or implementing curriculum materials. They relate mainly to services that are available to schools in the United States and the United Kingdom.

The organisation of information provided in database records of curriculum materials can be described according to the following features: a descriptive review describes the content of a curriculum material in summary form; an evaluative review, based on a model of curriculum development, analyses how a material can be used in a classroom in terms of the purpose its author specifies, its content, the teaching-learning method its author recommends, and the means for assessing students its author recommends; and a full-text record contains a copy of the content of a curriculum material.

Part 7 includes a sub-set of questions consisting of items numbered 67-70. To the right of each item are five boxes, which are labelled at the top. Please read each item and then tick the box that best fits your opinion for that item.

	yes, definitely useful	yes, probably useful	uncertain	no, probably not useful	no, definitely not useful
How useful would you find an information service providing ...					
67. ... descriptive reviews of curriculum materials in assisting you to select and implement curriculum materials?	☐	☐	☐	☐	☐

	yes, definitely useful	yes, probably useful	uncertain	no, probably not useful	no, definitely not useful
68. ... evaluative reviews of curriculum materials, based upon a model of curriculum development, in assisting you to select and implement curriculum materials?	☐	☐	☐	☐	☐
69. ... full-text documents of curriculum materials in assisting you to select and implement curriculum materials?	☐	☐	☐	☐	☐
70. ... a database that matches content, learning activities, and cognitive processes embedded in materials of different media and tests, selecting those best able to remediate identified student weaknesses?	☐	☐	☐	☐	☐

71. What reasons can you specify to explain your choice of approaches for presenting information on curriculum materials? Please list them.

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Additional Optional Item

What is the name and address of your school?

Name: ....

Address: ....

.... State: .... Post Code: ....

Please check that you have completed all items. Thank you for spending the time to answer the questionnaire.

Please mail the completed questionnaire to Michael G. Watt, 316 Churchill Avenue, Sandy Bay, Tasmania 7005, Australia.

APPENDIX C

SURVEY OF STATE EDUCATION AGENCIES ON PRACTICES USED TO SELECT, ADOPT AND IMPLEMENT INSTRUCTIONAL MATERIALS, AND USE INFORMATION SERVICES

Questionnaire

Introduction

The purpose of this survey is to identify the procedures used by state education agencies and other public educational authorities to select, adopt and use instructional materials, and services for providing information on instructional materials.

The questionnaire is divided into six parts:

Part 1:	Background Information, and the Main Procedure used for Selecting and Adopting Instructional Materials (items 1-2);
Part 2:	The Statewide Procedure used for Selecting and Adopting Instructional Materials (items 3-34);
Part 3:	The Local-level Procedures used for Selecting and Adopting Instructional Materials (items 35-36);
Part 4:	The Quality of the Procedures used for Selecting and Adopting Instructional Materials and Further Information (items 37-38);
Part 5:	The Use of Information Systems (items 39-50); and
Part 6:	The Use of Information Services provided by the Educational Products Information Exchange (EPIE) Institute (items 51-69).

Responding to the Questionnaire

Most of the items can be answered by either checking a box or form filling. Only items 37, 64 and 68 require open-ended responses. Please attach all documents to the completed questionnaire.

It would be preferred if responses are typed. Handwritten responses should be printed.

Your name is not required. If you have any queries concerning the questionnaire, please call me by phone on international direct dial 0011-61-02-25-1335. I will be available most mornings and evenings local time to take phone queries.

I hope time can be made available to complete the questionnaire as I value your opinions.

Returning the Questionnaire

Please return the completed questionnaire by air mail to Michael G. Watt, 316 Churchill Avenue, Sandy Bay, Tasmania 7005, Australia.

Thank you for your help.

Part 1: Background Information, and the Main Procedure used for Selecting and Adopting Instructional Materials

Part 1 asks for background information, and an indication of the main type of procedure used in your public education system and its schools for selecting and adopting instructional materials.

Please write in the space provided or check the appropriate box.

1. What is your name, title and address of your agency?

Name: ....

Agency: ....

Address: ....

.... State: ....

Zip Code: .... Country: ....

2. Which one of the following operates as the main type of selection and adoption committee within your state educational system?

A. state board of education, state department of education, or statewide committee or subcommittees provides an adoption list from which local school districts select materials ☐

B. school district committees, or individual school committees, select materials independently ☐

C. some combination of A. and B. above prevails ☐

D. other ☐
(please specify)

....

IF YOU CHECKED A. OR C. IN QUESTION 2, PLEASE ANSWER PARTS 2, 3 AND 4 BELOW. IF YOU CHECKED B. OR D. IN QUESTION 2, PLEASE ANSWER PARTS 3 AND 4 ONLY.

Part 2: The Statewide Procedure used for Selecting and Adopting Instructional Materials

Part 2 examines the statewide procedure used by your state education agency for selecting and adopting instructional materials.

Part 2 includes four sub-sets of questions consisting of items numbered 8-9, 11-18, 21-24, and 25-30. To the right of each item in each set are four boxes, which are labelled at the top. Please read each item, and check the box that best fits your opinion.

3. Which one of the following operates as the main statewide adoption authority?

A. state board of education ☐

B. state level committee ☐

C. subject area subcommittees ☐

D. separate elementary and secondary subcommittees ☐

E. some combination of A, B, C, or D above ☐

F. other ☐
(please specify)

....

4. Which type of instructional materials does the committee, or subcommittees, select?

A. only basic instructional materials (i.e. textbooks) ☐

B. both basic and supplementary instructional materials ☐

C. basic, supplementary and non-print materials ☐

D. other ☐
(please specify)

....

5. For which grade levels does the committee, or subcommittees, select instructional materials?

A. grades K to 12 ☐

B. other ☐
(please specify)

....

6. Approximately, how many months does it take for the committee, or subcommittees, to select the materials? Please specify the period of time from beginning to end of the process in months.

(please specify) ....

7. What is the title, or titles, of the committee, or subcommittees?

(please specify for committee) ....

(please specify for subcommittees) ....

Are committee members, evaluators and others involved in the selection and adoption process provided with training by ...

	yes, more than twice a year	yes, twice a year	yes, once a year	no, never
8. ... your state education agency?	☐	☐	☐	☐
9. ... some other agency? (please specify)	☐	☐	☐	☐

....

10. How many members make up the committee, or subcommittees?

(please specify for committee) ....

(please specify for subcommittees) ....

Is the committee, or subcommittees, operating within your educational system composed of ...

	yes, always	yes, usually	yes, sometimes	no, never
11. ... lay people?	☐	☐	☐	☐
12. ... classroom teachers?	☐	☐	☐	☐
13. ... principals?	☐	☐	☐	☐
14. ... superintendents?	☐	☐	☐	☐
15. ... district supervisors?	☐	☐	☐	☐
16. ... state department subject area specialists?	☐	☐	☐	☐
17. ... state board of education members?	☐	☐	☐	☐
18. ... others? (please specify)	☐	☐	☐	☐

....

19. What type of criteria does the committee, or subcommittees, use for evaluating materials during the selection process?

A. generic criteria, which are developed from a set of curriculum-related standards ☐

B. generic criteria, which are not developed from a set of curriculum-related standards ☐

C. subject-specific criteria, which are developed from a set of curriculum-related standards ☐

D. subject-specific criteria, which are not developed from a set of curriculum-related standards ☐

E. both generic and subject-specific criteria, which are developed from a set of curriculum-related standards ☐

F. both generic and subject-specific criteria, which are not developed from a set of curriculum-related standards ☐

G. some other type of criteria ☐
(please specify)

....

20. Can you provide information describing the criteria used by the committee, or subcommittees, evaluating instructional materials?

A. yes, in the printed document(s) or form(s) attached ☐
(please specify its title or label, and attach a copy to the questionnaire)

....

B. yes, by referring to a source for a document(s) or form(s) ☐
(please specify the source)

....

C. yes, by describing the criteria in the written report attached ☐
(please specify its title or label, and attach a copy to the questionnaire)

....

D. yes, by some other means ☐
(please specify its title or label)

....

E. no, cannot provide this information ☐

Are publishers permitted to ...	yes, always by requirement	yes, sometimes by requirement	yes, voluntarily	no, never
21. ... make presentations to the committee or subcommittees?	☐	☐	☐	☐
22. ... provide readability levels for submitted materials to the committee or subcommittees ?	☐	☐	☐	☐
23. ... provide evidence to the committee or committees that submitted materials have been field tested?	☐	☐	☐	☐
24. ... adjust prices on materials after they have been adopted?	☐	☐	☐	☐

Are materials verified, prior to adoption by the committee or subcommittees, by ...	yes, always the way	yes, most usual way	yes, sometimes the way	no, never the way
25. ... collecting information at public hearings?	☐	☐	☐	☐
26. ... displaying materials in public display centres?	☐	☐	☐	☐
27. ... consulting state and local affiliates of professional associations?	☐	☐	☐	☐
28. ... pilot testing materials in schools?	☐	☐	☐	☐
29. ... consulting published evaluations?	☐	☐	☐	☐
30. ... some other means? (please specify)	☐	☐	☐	☐

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31. Which authority approves the adoption list?

A. state board of education ☐

B. state level committee ☐

C. subject area subcommittees ☐

D. separate elementary and secondary subcommittees ☐

E. other ☐
(please specify)

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32. What means is used to disseminate information on adopted materials?

A. a printed list of multiple titles is published ☐

B. an annotated, printed list of multiple titles is published ☐

C. an electronic database of titles or annotated information is maintained ☐

D. other ☐
(please specify)

....

33. What is the length of the adoption cycle? Please specify the period of time in years.

(please specify) ....

34. Can you provide information describing the processes used by the committee or subcommittees within your educational system for selecting and adopting instructional materials?

A. yes, in the printed document(s) attached ☐
(please specify its title or label, and attach a copy to the questionnaire)

....

B. yes, by referring to a source for a document(s) ☐
(please specify the source)

....

C. yes, by describing the processes in the written report attached ☐
(please specify its title or label, and attach a copy to the questionnaire)

....

D. yes, by some other means ☐
(please specify its title or label)

....

E. no, cannot provide this information ☐

Part 3: The Local-level Procedures used for Selecting and Adopting Instructional Materials

Part 3 examines the local-level procedures used by schools in your public education system for selecting and adopting instructional materials.

Please write in the space provided or check the appropriate box.

35. What is the number of school boards, or other units, operating selection committees in your state?

(please specify)..

36. Can you provide information describing the processes used by at least one local-level committee within your state education system that is recognised for its exemplary practice in selecting and adopting instructional materials?

A. yes, in the printed document(s) attached ☐
(please specify its title or label, and attach a copy to the questionnaire)

....

B. yes, by referring to a source for a document(s) ☐
(please specify the source)

....

C. yes, by describing the processes in the written report attached ☐
(please specify its title or label, and attach a copy to the questionnaire)

....

D. yes, by some other means ☐
(please specify its title or label)

....

E. no, cannot provide this information ☐

Part 4: The Quality of the Procedures used for Selecting and Adopting Instructional Materials and Further Information

Part 4 examines the strengths and weaknesses of the overall procedures used in your public education system for selecting and adopting instructional materials.

Please write in the space provided.

37. In specific terms, what do you perceive to be the strengths and weaknesses of the selection and adoption procedures used in the public school system of your state? Relate your comments to improvements made to the procedure during the last ten years.

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38. The author may wish to obtain additional information concerning the selection and adoption procedure used by your agency. What is the name and address of the best person for further contact?

Name: ....

Agency: ....

Address: ....

.... State: ....

Zip Code: .... Country: ....

Part 5: The Use of Information Systems

Part 5 examines the use made by your agency of curriculum-related information systems available in the United States on databases offered by electronic and CD-ROM vendors, or by printed formats.

Part 5 consists of a sub-set of questions consisting of items numbered 39-50. To the right of each item are four boxes, which are labelled at the top. Please read each item and then check the box that best fits your opinion.

	yes, intend to	yes, at present	yes, in the past	no, never
Do teachers, students, or other personnel in your agency use ...				
39. ... the Integrated Instructional Information Resource (IIIR) database and/or other services provided by the Educational Products Information Exchange (EPIE) Institute?	☐	☐	☐	☐
40. ... the A-V Online database and/or A-V Online Training Media database and/or other services provided by the National Information Center for Educational Media (NICEM)?	☐	☐	☐	☐

	yes, intend to	yes, at present	yes, in the past	no, never
41. ... the Vocational Education Curriculum Materials (VECM) and Resources in Vocational Education (RIVE) databases provided by the National Center for Research in Vocational Education (NCRVE)?	☐	☐	☐	☐
42. ... the Project Software Evaluation Exchange and Dissemination (Project SEED) database provided by the Southeastern Educational Improvement Laboratory (SEIL)?	☐	☐	☐	☐
43. ... the Resources in Computer Education (RICE) database provided by the Northwest Regional Educational Laboratory (discontinued in 1990)?			☐	☐
44. ... the Canadian Education Index (CEI) provided by Micromedia Limited?	☐	☐	☐	☐
45. ... the Educational Research Forum provided by the American Educational Research Association (AERA)?	☐	☐	☐	☐
46. ... the Educational Resources Information Center (ERIC) database and/or other ERIC information services provided by the United States Department of Education?	☐	☐	☐	☐
47. ... the Exceptional Child Education Resources (ECER) database provided by the Council for Exceptional Children (CEC)?	☐	☐	☐	☐
48. ... the Ontario Education Resources Information System (ONTERIS) provided by the Ontario Ministry of Education?	☐	☐	☐	☐
49. ... a database developed and maintained by your agency? (please specify)	☐	☐	☐	☐

....

50. ... other database(s)? (please specify)	☐	☐	☐	☐

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IF YOU ANSWERED 'YES' TO QUESTION 39, PLEASE GO ONTO PART 6. IF YOU ANSWERED 'NO' TO QUESTION 39, PLEASE STOP HERE.

Part 6: The Use of Information Services Provided by the Educational Products Information Exchange (EPIE) Institute

Part 6 examines the use made by your agency of information services provided by the Educational Products Information Exchange (EPIE) Institute. The uses of the Integrated Instructional Information Resource (IIIR), stated in items 57-63, have been summarised from P. Kenneth Komoski, *Educational Technology: The Closing-in or the Opening-out of Curriculum and Instruction*, Syracuse, NY: ERIC Clearinghouse on Information Resources (1987).

Part 6 includes three sub-sets of questions consisting of items numbered 52-56, 57-63, and 65-67. To the right of each item in each set are four or five boxes, which are labelled at the top. Please read each item, and check the box that best fits your opinion.

51. Approximately, for how long has your agency, or schools within your educational system, used products and services provided by the EPIE Institute?

A. 20 years or longer ☐
B. 15 to 19 years ☐
C. 10 to 14 years ☐
D. 5 to 9 years ☐
E. less than 5 years ☐

Has your agency, or schools within your educational system, used the EPIE Institute's...	yes, intend to	yes, at present	yes, in the past	no, never
52. ... newsletter services?	☐	☐	☐	☐
53. ... EPIE PRO/FILES system?	☐	☐	☐	☐
54. ... printed EPIE reports?	☐	☐	☐	☐
55. ... The Educational Software Selector?	☐	☐	☐	☐
56. ... other product(s) or service(s)? (please specify)	☐	☐	☐	☐

....

How useful has your agency, or schools within your educational system, found the Integrated Instructional Information Resource (IIIR) for ...	yes, definitely useful	yes, probably useful	no, probably not useful	no, definitely not useful	no, never used
57. ... building locally developed curricula by using a special curriculum design spreadsheet?	☐	☐	☐	☐	☐

	yes, definitely useful	yes, probably useful	no, probably not useful	no, definitely not useful	no, never used
58. ... analysing, correlating and comparing subject matter content or cognitive processes embedded in instructional materials?	☐	☐	☐	☐	☐
59. ... documenting and tracking the evolution of curriculum thinking and practice over time within your educational system?	☐	☐	☐	☐	☐
60. ... using state and nationally recommended curriculum standards to inform local curriculum development?	☐	☐	☐	☐	☐
61. ... presenting information on mediated learning experiences provided by print-based, computer-based, video-based, and multimedia-based materials?	☐	☐	☐	☐	☐
62. ... presenting information about nonmaterials-based learning experiences?	☐	☐	☐	☐	☐
63. ... other uses(s)? (please specify)	☐	☐	☐	☐	☐

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64. In specific terms, describe ways in which the Integrated Instructional Information Resource (IIIR) database has been used for curriculum development within your educational system?

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	yes, definitely	yes, probably	no, probably not	no, never
Have teachers and/or other employees of your agency ...				
65. ... been trained as evaluators by the EPIE Institute ?	☐	☐	☐	☐

	yes, definitely	yes, probably	no, probably not	no, never
66. ... participated in other in-service activities provided by the EPIE Institute?	☐	☐	☐	☐
67. ...contributed analyses or other information on educational products to the information system provided by the EPIE Institute?	☐	☐	☐	☐

68. In specific terms, what do you perceive to be the strengths and weaknesses of the products and services provided by the EPIE Institute?

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69. The author may wish to obtain additional information concerning the use that your agency makes of EPIE products and services. What is the name and address of the best person for further contact?

Name: ....

Organisation: ....

Address: ....

.... State: ....

Zip Code: .... Country: ....

Thank you for spending the time to answer the questionnaire.

Please return the completed questionnaire by air mail to Michael G. Watt, 316 Churchill Avenue, Sandy Bay, Tasmania 7005, Australia.

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